Adeela ahmed Shafi
Tristan Middleton
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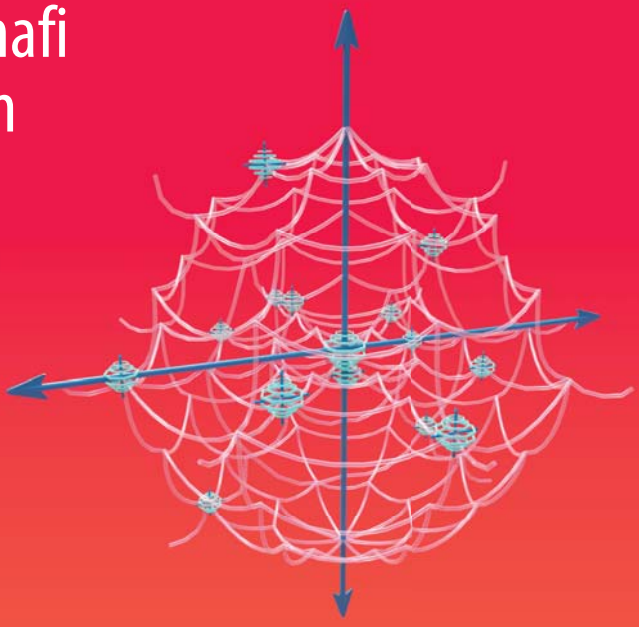
Editors



Reconsidering Resilience in Education

An Exploration using the Dynamic Interactive Model of Resilience

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Augmented Reality (AR) Image of the Dynamic Interactive Model of Resilience

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Part I
Resilience: Building a Model

Chapter 1
A Need for Resilience

Richard Millican and Tristan Middleton

Abstract This chapter begins by setting the context for the need for resilience. It explores some of the changes to societies that have occurred in recent years arguing that the accelerating pace of change leads to increased stresses on individuals and on society itself. This is placed in the context of a neoliberal political arena and a digital and globalised world. The argument that these issues have the danger of being toxic both to communities and to individuals and can lead to increased feelings of pressure and isolation will be considered. Mental health statistics and crime rates will be used to highlight the need for individuals (and societies) to develop resilience to help cope with the change and flux. The chapter will then proceed to discuss the impact of change on education and argue that parallel pressures exist. It will illustrate the view that neoliberalism has resulted in an instrumental approach to education and discuss how the increasing focus on targets, achievement, competition and marketisation has led to increased strain for teachers and learners alike. An argument will be made that educational contexts are a microcosm of wider society and suffer the same consequences by using statistics of rising mental health issues in learners and teachers and an increasing attrition rate. It is suggested that while educational reform is needed, there is a pressing and additional need for resilience.

This chapter makes the case for a reconsideration of the idea of resilience. It suggests that contemporary life has increased both stresses upon, and threats towards, individuals as well as organisations and society. It presents the view that, as a result, there is a need for the resilience to be able to deal with these stresses and threats, but also to resist them where desired. It makes the case for thinking about resilience as something that is dynamic and interactive whereby the relationship between actors and the structures around them are mutually interdependent so that whilst actions

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of individuals can strengthen or weaken the structures, so too can the actions of structures nurture or threaten the individuals within.

The chapter argues that the pace of change is ever increasing and that some of these changes have resulted in tensions and conflicts that put pressure on the individuals within society and also potentially between them and could even lead to threats to society itself. It goes on to suggest that some changes seem to imply a lack of congruence between stated aims of and rationale behind the change, and the reality of practice.

Using mental health and wellbeing metrics as indicators, this chapter proposes that current rates of change and the mismatch between rhetoric and reality have led to a growing number of stressors on both individuals and society and highlights the need for both to develop the resilience to be able to cope with, and respond to, contemporary life. It argues however, that this response need not be passive, but could be proactive and anticipatory ie agentic.

Using education as an example of a system within society, the chapter will suggest that, as with the broader context, the rate of change in recent years has increased with a plethora of structural, policy, pedagogical and administrative changes. It draws parallels with wider society, arguing that the result has been greater pressures on the actors within and tensions between them that, ultimately, could impact on the educational settings and even back on society itself. Again, it proposes that there are similar dissonances between stated purpose or 'mission', and practice within the system.

Considering indicators similar as those mentioned above in addition to attrition rates of educators, truancy levels of learners and failure rates of establishments, the need for resilience for all those involved is emphasised and, arguably, for the settings themselves. Moreover, it proposes that resilience should not infer simply a passive ability to cope and endure, but the potential to act and redirect change.

By considering the symbiotic relationship between society and individuals and then, by reflecting on the education system and its impact on the individuals within and how in turn they may react with the system and with wider society, the interdependency of these systems is highlighted.

Consequently, the case will be made for a need for resilience at all levels and a recognition that the actions and behaviours at any level have the potential to strengthen or weaken the resilience of systems around and within. Whilst examples used will predominantly draw on the UK context, issues presented and arguments made are applicable to other contexts.

Historical evidence shows that humans have always been social animals creating and living in social systems but, in common with systems in general, existing in a state of flux. Developments and changes to societies have occurred as a result of external factors like invasions from other groups, food and water supply fluctuations, and natural disasters; or internal developments like technological discovery, shifts in knowledge and understanding, and new ideological movements. While some of these factors have caused shocks to society which take time to recover from eg plague, war, drought and famine, others can be perceived as risks and as such cause stress and anxiety which can be met with resistance eg introduction of new religions,

industrial revolution and artificial intelligence. If the pace and management of the change is appropriate, then usually the systems involved can adapt and evolve to accommodate them and survive. However, an important point to emphasise here is that usually this does involve adaptations. In other words, society and the individuals within it have not tended to remain the same, but have undergone a process of change towards something eg beliefs, values, structures, behaviours in order to survive—so new ways of being emerge in response to the factor that occurred. Nothing stays the same. Harari (2015, p. 78) states 'People are usually afraid of change because they fear the unknown. But the single greatest constant of history is that everything changes'.

In recent years, with ever increasing technological advances leading to a digital and globalised world, the pace of change is noticeably greater resulting in the need to evolve and adapt more rapidly (see for example Marsh, 2014). Much of this development is clearly positive as opportunities for people to travel and be more geographically mobile have increased; there are more choices and consumer goods at our disposal; new devices are constantly being invented; and novel and exciting opportunities for entertainment are being developed. Benefits for individuals and society are many as the ease of communication brings us closer and enables us to be more connected with obvious advantages for those with mobility issues; as much labour-intensive work is able to be undertaken by computers; as an increasing number of illnesses and conditions are able to be cured enabling us to live longer and more healthily and, theoretically at least, we have more leisure time at our disposal.

However, despite the obvious benefits brought by these developments, as society and the individuals within adapt to the changes, unforeseen pressures and tensions emerge not because of the technology itself, but due to the speed of introduction and the way it is sometimes used, demonstrating the need for resilience just to remain apace.

The rate of recent changes seems to be placing individuals under tension as they struggle to keep abreast of developments and deal with expectations created. For example, there is increased pressure to purchase and consume and to be financially able to do so. In addition, many feel the need to live what others might judge to be an exciting life that maximises the myriad opportunities available and to display evidence of doing so through social media (see for example Gaskell et al., 2016). In addition, recent research from America has suggested there are causal links between social media use and depression (see Lin et al., 2016).

Looking at statistics of social and individual wellbeing (Wilkinson & Pickett, 2010, 2018; Health at a Glance: Europe 2018) there is evidence that, for example, despite the increases in GDP and technology that were meant to make life easier and less labour intensive, rates of depression, suicide, murder, drug and alcohol addiction and isolation have all increased and that feelings of wellbeing are decreasing. Further, research from Hargreaves et al. (2018) found that the proportion of 4–24 year olds who have a longstanding mental health condition rose from 0.8% in 1995 to 4.8% in 2014.

Added to this, as technology shifts the way that things are done, working environments and practices change and, although governments might claim that employment

rates are growing, much of that employment is in unstable, temporary, part time or zero-hour contract jobs (Grimshaw, Johnson, Keizer, & Rubery, 2017). These often lead to insecurities and poor rates of pay and a subsequent increase in the wealth gap with more families and children living in poverty. The richest 10% in Britain now hold 45% of wealth and the poorest 50% just 8.7% (see equalitytrust.org.uk). Those that are in work are frequently working long hours and in stressful conditions. They are left feeling inadequate or unvalued as they are subjected to challenging performance indicators and demanding targets without the security of tenured positions and with reducing trade union protection (see for example The Taylor Review, 2017 and DfBEIS, 2018). It would thus appear that these pressures and stresses on individuals are threatening the ability of many to cope.

Such technological developments are not only impacting on individual behaviours, but as we become more integrated and exposed through physical and virtual contact to different social groupings and practices, individual, local and national customs and cultures change. Indeed, Weinstein (2010, p. xvii) argues that, over the past few decades there has been 'rapid and accelerating rates of change in human relations, from the interpersonal to the international level' leading De La Sablonniere, in her typology of social change, to define 'dramatic social change' (2017) as that which, because of its pace, has the potential to rupture social and normative structures and threaten cultural identity. As the digital generation rewrites and redefines itself and society, some of the value systems and accepted institutions that have been regarded as constants in recent generations have been, and continue to be, challenged. This has led to, for example, reconceptualised understandings and definitions of family, gender, marriage, sexuality, disability, education and nationhood.

A dominant theme of many of these reconceptualisations has been to dismantle inequities and barriers within our systems and to work towards social justice. Suffragette movements to civil rights, anti-apartheid to equal rights, disability rights to gay pride are examples of civil protest movements that have helped tackle the hegemony of white, heterosexual male advantage and have assisted the shift of national discourses to those that recognise the rights of all to fair treatment and equal voice and representation. Whilst there have been some disruptions to this trajectory, gradually attitudes, language, culture and values are changing towards an acceptance of the need for a fairer world and this is, generally, reflected in legislation for example the Human Rights Act 1998, Employment Act of 2008 and Equality Act of 2010.

However, paradoxically, while we see these progressive shifts in mindset, legislation and discourse towards what should be a socially just, inclusive world, the reality is often of a different kind (Fukuyama, 2018). The move towards a digital society and recent political agendas have added to what appears to be the fragmentation of society with a rise in tribalism and individualism and we see increasing numbers of hate crimes towards members of minority groups (Home Office, 2019), continued stigmatism of LGBT members (Gordon, 2016) and underrepresentation of people with disabilities (Powell, 2019) and other minority groups in positions of power (see Home Office, 2018).

Furthermore, the pace of change whereby it is possible to see religious, cultural and family traditions that have been present for generations rejected and eschewed within

a lifespan, can also lead to societal and intergenerational strife as older generations struggle to hold onto what is familiar and dear to them while younger generations adopt new and sometimes alien behaviours (Heath, 2014). Alongside this, societal change has meant that some of the support structures that used to exist have weakened or disappeared with fewer people engaged in community organisations such as faith groups, community centres, unions, clubs and societies (Seddon, 2011) and an increasing number of people existing in smaller, more fragmented and dissipated family units with, arguably, less support and protection (Knipe, 2017). These changes are causing further stress, but are also removing some of the supportive structures that help protect individuals and bind them together and help them to deal with the pressures involved.

Such tensions and inconsistencies will inevitably have an impact. There thus appears to be a disconnect, or a lack of congruence, between perhaps what was expected and what seems to be emerging, with the narrative of creating a more prosperous and socially just society and one which continues to show indicators of inequality, marginalisation and social and individual malaise (Wilkinson & Pickett, 2010). This tension seems to exist and to be placing stress at different levels; at the level of the individual as they struggle to cope, at that of the family and local community as they are potentially dissipated and fragmented and at that of wider society where reactions to differences in distribution of wealth and opportunity appear to be resulting in increased resentment and social division (Greitemeyer & Sagioglou, 2017).

Furthermore, recent changes through industrialisation to globalisation and digitisation have led to unexpected consequences beyond those that have occurred directly to individuals and societies and have extended to the environment itself. Many of the recent changes have been predicated on continued economic and material growth which is built on the extraction and use of the Earth's natural resources and on humankind's ability to control nature. However, recent research (eg IPCC 2018) reveals that this threatens the very structures that sustain life as the climate shows signs of change, sea levels rise, much biodiversity is lost and there is increasing evidence that we have entered the sixth mass extinction (the Anthropocene). Recent research from Radchuk et al. (2019) reveals that animals are failing to adapt their behaviours quickly enough to cope with the pace of climate change and that this threatens their existence. This will be discussed further in Chap. 3, but shows how our actions are threatening the resilience of the biosphere that protects us and enables us to survive which will in turn create increased risks and vulnerabilities to us as individuals and societies and is further evidence of how systems are interdependent (see also Bendell, 2018).

Viewing education as a microcosm of wider society, it is arguably possible to track similar patterns. Within England, since a government funded education system began in 1870, there has been a steady flow of policy changes affecting provision. However, in recent years the volume and pace of change has increased with structural changes as a result of, for example, academisation and free schools; content and practice changes, for example national curriculum and exams system revisions; and shifts in accountability through Ofsted, performance-related pay and league tables.

As with societal change mentioned earlier, such changes have ostensibly been made to improve standards, to provide more choice for parents and to break cycles of disadvantage. Successive governments have made alterations to the education system with the intention of creating a 'meritocratic society', to 'not leave anyone behind' and to 'widen participation' thus providing 'opportunity for all'. In other words, as part of an endeavour to create a fairer and socially just society.

Much has been achieved with education acts enabling education to be free at the point of delivery from the age of 4 to now 18, free pre-school education, equal educational opportunities for girls and boys, inclusive practice for those with learning difficulties and/or disabilities and for those of different national heritage or speakers of other languages. There has been a standardisation of the curriculum (Graham & Tytler, 2018) and moves towards more comprehensive and equitable provision and more people are progressing onto university education than ever before (Bolton, 2019).

However, these achievements appear to have had some detrimental impact on both the educators and the learners themselves. Teachers and head teachers find it increasingly difficult to deal with this constant raft of changes and there have been many reports of practitioners working evenings, weekends and throughout their holidays in order to keep abreast of the workload. Perhaps unsurprisingly, as a consequence, we find both an increasing attrition rate as teachers leave the profession and rising incidences of those off work with stress. Perryman and Calvert (2019) found that 40–50% of respondents surveyed had left or were considering leaving the profession within 10 years of starting citing workload (71%) and target driven culture (57%) as reasons, along with wanting to improve work/life balance (75%). In addition, Patalay and Gage (2019) showed that symptoms of depression rose from 9% to 14.8% and self-harm from 11.8% to 14.4% from 2005 to 2015 among young people and recent research from the National Education Union (2019) revealed that 83% of respondents said that mental health of pupils had deteriorated over the past two years with rising reports of anxiety, self-harm and even cases of suicide. It appears again, that people are finding it difficult to cope.

An implication of recent changes is that they have been underpinned by a neoliberal ideology that is based on the premise that, in order to improve standards and increase efficiency, it is beneficial to create a market that generates choice for users and competition between the providers (Lynch, 2006; Molesworth, Scullion & Nixon, 2010). As mentioned above this has, arguably, been advantageous for the users. Educational standards have seemingly improved and parents and students have more choice and say regarding educational provision. However, it has also meant that the previous settlement and established structures and ways of working have been altered and some of the protective factors such as local authority professional development courses and advisory teachers that used to exist within the education system are under pressure. The formation of academies, multi academy trusts and free schools mean that collaboration between local authority schools and the support structures provided by the council are disappearing; the pressures of the National Curriculum and the English Baccalaureate mean that the opportunity for learners to find space and pathways within the curriculum to follow their own interests and

passions is reducing; and league tables based on exam performance and Ofsted data mean that pressures for institutions to conform and follow standardised and established procedures are increasing (Brill, Grayson, Kuhn, & O'Donnell, 2018). This has the potential to increase stresses on individuals within the system, but also on the institutions and structures contained as they struggle to adapt to, and survive within, marketised environments.

It also appears that there is a parallel disconnect or tension between the stated intention of the system eg inclusive, equal opportunity and social justice and the reality on the ground of a system that shows indicators of inequality, increasing stress and narrowing opportunities. Signs of shifting focus from existing as a public service to one that is product and consumer focused are evident, with the over-riding instrumentalist vision of preparing learners for employment, meeting the needs of business and thus growing the economy (see, for example, DfE vision statement 2019). Gaps still exist, for example, between attainment 8 achievement rates and subsequently life chances of learners from different social economic statuses (free school meals 34.4%, others 48.3%), SEN (27.2%, not SEN 49.8%) (DfE Key Stage 4 statistics 2018) and between those learners who attend private schools and those that do not (proportion of private school pupils achieving A*s and As at A level 48%, national average 26%, achieving A of grade 7 at GCSE 63% compared to 23%—Kynaston & Green, 2019). This disconnect between stated intention of achieving a fair system and the reality of the system can again lead to tensions and frustrations and threaten the wellbeing of stakeholders involved.

There is also growing tension between an arts-based, liberal education and one that is employment focused where rewards are not to be found intrinsically, but are increasingly monetised (see for example employability rankings for universities and their courses).

This instrumentalist view of education whereby the focus and purpose are increasingly narrowed and targeted towards employment and ultimately a contribution to economic growth, can also have an impact beyond the immediate actors within the system and on the environment itself. The predominant assumption within much of education appears to be that the world will largely remain as it is and the status quo will continue unchallenged. Consequently, the damage that our actions and behaviours are causing the planet and each other remains generally unquestioned and unchecked and there is a need for an education that encourages us to look critically at the world and to develop what Freire (in Apple, 2018) terms conscientisation, or a rounder sense of purpose (see Vare, Millican & de Vries, 2018 and Chap. 13).

Once again this shows interdependency within the system and how changes to education to improve standards and, ostensibly, to improve opportunities for all, appear to be continuing to harbour inequalities, be adding stress to individuals and the structures within, but how they are also potentially contributing to global and environmental stress, thus demonstrating a need for resilience at all levels.

A functionalist perspective might suggest that such is the natural order of things. That inequalities are not only inevitable, but desirable and that they help society to function and that part of education's role is to help differentiate between the skills and abilities of individuals and to assist each to find their role in society. It might

also suggest that there is a need for an understanding and acceptance of difference in strengths and interests that will result in differing levels of achievement and career pathways and that, whilst all roles are vital to the smooth running of society, not all will return similar rewards.

While individuals have the belief that should they wish to, through their own hard work, determination and merit, they too could achieve and become more successful, this acceptance and consensus might remain. However, as the world becomes more digitised, interconnected and globalised and people become more aware of disparities in opportunities and wealth, there are signs of discomfort with this perspective (Bloodworth, 2016) as indicated through, for example, the Occupy Movement (Addley, 2011).

Part of the problem is that, where there are winners, there are also losers. Despite some positive initiatives recently encouraging corporations to adopt ethical and sustainable practices, markets do not tend to have a social responsibility and, consequently, organisations and individuals within them usually exist and work for their own benefit rather than that of others (Amankwah-Amoah, Antwi-Agyei & Zhang, 2017). Hence the success of one company, will normally be at the expense of another, the success of one individual will mean they have beaten others and the success of one school or university will likewise mean the relative failure of other institutions (Dorling, 2016).

Whilst support structures are in place to pick up and encourage the losers and people feel that opportunities are fair, success has been deserved and based on merit and when the difference between being a winner or a loser is not too great, then this may be perceived as acceptable. However, as suggested earlier, many of these structures and networks have themselves been threatened, as families, social networks, support groups, local authority provisions and even national allegiances become fragmented, weakened, or are dismantled.

Moreover, it can be seen that the flow of capital is such that wealth and opportunity appear to be concentrating in the hands of a few. This can be evidenced on a macro level with the wealthy and powerful countries of the north becoming more so at the expense of poorer countries of the south. Similarly, on a micro level where privileged individuals benefit from economic, social and cultural capital providing significant advantages which are used to further themselves rather than to support and develop others.

Such circumstances show potential to lead towards increasing individualism and protectionism. This can play out in political arenas as populistic, nationalistic and intolerant of those of difference, or who do not obviously conform to the norm and contribute to the economy. In the corporate and social worlds it can manifest as short-termist and profit-driven. These disparities in distribution of wealth and opportunity and shifts towards individualism are increasing the risks to individuals and societies and are potentially making them more vulnerable, thus threatening their resilience.

It can be seen that such attitudes are potentially detrimental to the environment too as, while short term political, personal and economic gain remain the dominant driver, there is a danger that the profit motive will override any immediate social or environmental concerns.

From a conflict perspective then, one might be cynical about the way society has been evolving and possibly question whether some of the structures that exist deliberately advantage certain groups eg white, 'Christian', middle-class males whilst consistently marginalising and disadvantaging others. One might reflect on the concentrations of wealth and poverty and the gaps between them and wonder whether structural injustices exist and whether society is as meritocratic as some might suggest.

Such thoughts might lead to dissatisfaction and unease with the way that society has evolved, is structured and is heading. It could clash with sensibilities and values and could feel unfair and unsustainable. These feelings of injustice can themselves be a source of stress and anxiety and can lead to either a feeling of impotence and frustration, or an active desire to make change.

There is therefore, arguably, a need for a critical perspective whereby, if we are sincere about a commitment to social justice and equal rights, we are collectively and individually aware and critical of society and strive to work towards congruence between what we say and what we do. In other words, we seek to remain true to our values and to ease the tensions and conflicts within ourselves, education and within broader society and in so doing, strengthen ourselves as individuals and the institutions and societies in which we live and work.

However, this is not an easy position to take and necessitates strength to analyse self, others and society at large, to reflect on values and the meaning of social justice and sustainability and to actively work towards a fairer world, resisting developments that are unfair, unjust and unsustainable and that as a result cause stress, anxiety and add risk and vulnerability.

There is therefore a need for resilience. But a concept of resilience that does not consider an individual, institution or society as a separate entity to be made resilient and strong. Such a perspective might believe that resilience is found within and that it is possible to provide a fix eg a strategy, a pill, a protective wall or an aggressive marketing campaign that will give strength and protect. Rather, a concept of resilience is needed that recognises that resilience is not within the system and fixed, but something that changes with time and context and is the result of the interactions within and between the system itself and other systems. A concept of resilience that acknowledges the interplay between individuals and other individuals, between individuals, groups and structures and between structures, wider society and the environment. In other words, one that takes a systems perspective and takes account of the interaction between systems and recognises that there are times when there is a need to cope, to adapt and to be flexible, but other times when there is a need to resist and even to be the instigator of change. Thus, a concept of resilience that accepts that systems have agency and thus some control over direction of travel and over response. An understanding of resilience that recognises that it is something that is dynamic and contextual and that emerges from interactions between systems, affecting simultaneously all systems involved in those interactions.

Such a concept of resilience could help shift mindsets. An acceptance that resilience is not within a system eg individual, institution, society, but that it is something that changes and is caused by interactions between systems can assist

with this change. It can help with an analysis of individuals, institutions and societies to look at protective factors and causes of stress, risk and vulnerability such as those mentioned above. In other words to look at things more holistically and, if we are serious about striving for a fair world, rather than trying to fix individual systems, strive to create conditions that are nurturing, supportive and protective of all systems at all levels eg that of individual, institution and society and of the environment and thereby create the conditions for resilience—for all to flourish.

This chapter has attempted to show that while change is constant, recent societal and technological advances have meant that the pace of change has increased and has led to a range of stresses and tensions at different system levels from individual, to society and on to the environment as they adapt to these changes. It suggests too, that these system changes have a symbiotic relationship with other systems causing further impact. It acknowledges that many of the changes are positive, but that some will result in unforeseen and unwanted consequences which then create further stresses and tensions in what could become a feedback loop of stress. The chapter indicates that a by-product of the change has been the dismantling of some of the protective factors that were in place that helped enable systems to cope. It makes the case for resilience:

(a) To be able to cope with, and adapt to, ongoing changes and deal with the increasing pace of change
(b) To be able to deal with the tensions and conflicts that exist caused by differences in rhetoric and reality and hegemonic and personal values
(c) To be able to, if so desired, resist pressures and direction of travel and to actively work towards a different way of behaving and living, that on an individual, group, or larger scale might be more congruent in claims of fairness, social justice and sustainability and the way that this is acted out.

However, it stresses that resilience is not something found within, but that it is something that emerges as a result of interactions between systems and, consequently, needs a holistic approach and a mindset that recognises interdependence. Such a mindset would accept that it is in the interests of all to nurture and protect and strive for a socially just and sustainable world and, in so doing, create conditions for resilience for all.

To this end, this book offers a new consideration of resilience and presents a model—The Dynamic, Interactive Model of Resilience (ahmed Shafi et al., 2020) in Chap. 2. This model conceptualises resilience as a quality that emerges as a result of interactions between systems and acknowledges system agency. It also recognises the role of protective and risk factors and system vulnerabilities and invulnerabilities.

Chapter 3 considers resilience above and beyond the individual and highlights the connections between individuals, society and the environment. It stresses the need to view the world and our activity within it more holistically and shows how the DIMoR (ahmed Shafi et al., 2020) can assist with this and help move towards sustainable and thereby resilient societies and individuals.

Chapters 4 and 5 turn attention towards education with Chap. 4 questioning the current system and whether it is helping resilience or hindering it, and 5 critiquing

approaches to the teaching of resilience suggesting that it needs to be through a systemic approach rather than through targeted resilience building programmes.

Chapter 6 offers an example of this by looking at the Early Years Foundation Stage and the opportunities provided therein for facilitating the building of resilience.

Chapter 7 uses the DIMoR (ahmed Shafi et al., 2020) to make links between mental health and wellbeing and resilience and thereafter to consider the role of education in meeting needs.

Subsequent chapters focus on UK or European-based research projects within education that have explored aspects of education linked to resilience and illustrate the value of the DIMoR (ahmed Shafi et al., 2020) through various applications. Whilst the nature of these examples are based on the UK or European context, the principles of DIMoR (ahmed Shafi et al., 2020) can be applied to different contexts.

Chapter 8 reports on research into the impact of assessment feedback on student emotional state and uses the DIMoR (ahmed Shafi et al., 2020) to analyse context to identify other risks and protective factors.

Chapter 9 discusses research into practitioner resilience whilst working on nurture groups in the field of SEND. Again findings are analysed using the lens of the DIMoR (ahmed Shafi et al., 2020).

Chapter 10 uses the DIMoR (ahmed Shafi et al., 2020) to analyse the results of a European research project into the creation and implementation of an emotional education programme for school pupils.

The next Chap. 11, is based on research conducted in a young offenders institution that explored the complexities of re-engaging those incarcerated with education and uses the DIMoR (ahmed Shafi et al., 2020) to help structure the experiences and contexts of the young people involved.

Chapter 12 draws links between emergent learning through the use of the internet and Self-Organising Learning Environments (SOLE) and the emergence of resilience and offers suggestions for a pedagogy that helps the emergence and development of both.

Chapter 13 returns to a consideration of broader systems and reflects on the current climate crisis, suggesting that there is a need for a different approach to education that has sustainability at its heart. It presents findings from a European research project that developed a set of competences for educators of education for sustainable development and uses the DIMoR (ahmed Shafi et al., 2020) to show how these can help lead to sustainability and resilience at all levels, from individuals to the environment.

Chapter 14 is a concluding chapter that provides an overview of each, attempting to bring out salient themes towards an overall summary of lessons learnt.

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Chapter 2
Towards a Dynamic Interactive Model of Resilience

Adeela ahmed Shafi and Sian Templeton

Abstract This Chapter explores a range of theoretical models of resilience and human development to understand the concept of resilience as it has developed over time and how it is understood today. These include both classic and contemporary ideas such as those of Bronfenbrenner, Masten, Rutter and more recently, Ungar and Downes. In doing so, the chapter presents a new model of resilience built by taking the key elements of established theories to offer a dynamic and interactive model of resilience that recognises individual agency and its complex reciprocal interactions both with other individuals but also with the wider system within which the individual unit is situated. This chapter positions the DIMoR as an important contribution to this book in understanding resilience for learning in a range of educational contexts.

Introduction

Resilience originates from the Latin word 'resiliens' and broadly encapsulates the concepts of recoil and rebound. Originating within the field of structural engineering focusing on how our physical infrastructures survive natural disasters such as hurricanes, floods etc., resilience has since burgeoned into a variety of domains including community development, ecosystems and public services. In the 20th Century developmental psychologists started to utilise the term for individuals who had suffered from trauma and 'survived' despite these adverse circumstances.

This chapter explores how resilience has been conceptualised during the 20th Century in the psychological and human development literatures. It will consider how the primary focus within the literature has previously been on individual resilience and does not necessarily consider how the individual also impacts on others.

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A critique of this reductionist approach to resilience will be developed by questioning the validity of generalising these findings to more preventative and proactive approaches. The discussion assesses the contribution that the models of Daniel, Wassell, & Gilligan (1999), Bronfenbrenner (1979) and Ungar (2013) contribute to the understanding of resilience. The chapter will end with the new and adapted model of resilience; the DIMoR proposed by ahmed Shafi et al. (2020), which takes the key ideas of existing models but draws on systems thinking and complexity theory to present a model which recognises the socio-ecologically embedded nature of the individual which acknowledges individual agency as they journey through life encountering many other such systems.

Early Resilience Research

There are many definitions of resilience which have contributed to our understanding of the concept over the last few decades. Within this chapter, we will highlight some of the key definitions as they both demonstrate the development of our conceptualisation of resilience later in this chapter and provide the evidence base for our proposal of more dynamic interactive definition of resilience, which then helps to frame the discussion held in the rest of this book.

Whilst there are many definitions of resilience across a variety of disciplines; there is however, some commonality between them: adaptability in the face of adversity, a focus on positive qualities and strengths, coping with trauma and the appreciation that resilience is not fixed, but an unstable construct that fluctuates over time. There is also more recently the recognition that resilience is a dynamic process, which involves behavioural and cognitive components alongside emotional psychological components that interact with the individual and their surrounding systems. Kaplan (2014) suggests that we proceed with caution however when coming to a definition or focus point for assessing and understanding resilience however in his argument that "Although it is conceivable that the term might usefully be applied to interpersonal as well as individual-level systems, the context for usage should be clarified in each instance." p. 40. Therefore, as a broad definition, this book will focus on the ideas portrayed by Masten (2015), p. 9 where she states the focus on resilience as arising as a result of adaptation and survival of systems after adverse circumstances which at times involves 'successful transformation to a stable new functional state'.

In her seminal book 'Ordinary Magic' (2015), Ann Masten has helped shape our understanding of this evolving understanding of resilience which has developed during the last couple of decades. She has described this as '4 waves' of theoretical and evidence-based perspectives about resilience providing a guiding framework for a broader conceptualisation of resilience.

This chapter will go on to explore the multi-systemic possibilities that can open up the debate and discussion around the concept of resilience even further. Within Wave 1 behavioural psychologists tended to reconstruct the events that led to school failure, delinquency and crime, and serious mental health problems by studying the

history of individuals in whom such problems surfaced. Long (2000) argued that this retrospective approach can create the impression that a poor developmental outcome is inevitable if an individual is exposed to adversity since it examines only the lives of 'casualties' not the lives of the survivors. Ideas from Positive Psychology and the work of Martin Seligman et al. (2005) focuses on a strengths-based approach through the exploration of factors which can contribute to the sustainability of individuals and communities. The research on resilience has therefore explored factors that contribute to the lives of survivors in order to establish *how* they have survived despite adversity and individual risk factors. Three main groups were initially identified by Masten et al. (1990) as the focus from which to provide a lens to explore these survivors who recovered and prospered despite significant factors which could interfere with healthy development:

1. Individuals who thrive despite their high-risk status (such as birth defects);
2. Children who develop coping strategies in the face of adversity (such as children of parents/carers who misuse alcohol and/or drugs);
3. Those who have suffered extreme trauma (such as sudden bereavement, abuse, natural disasters or war).

In recognition of the variable contexts and qualities that might influence resilience, Werner & Smith (1982) advocated the importance of developing a lifespan approach to understanding resilience. In light of the above considerations, Wang, Haertal, & Walberg (1997) suggested that resilience develops where individuals succeed despite personal vulnerabilities that have arisen as a result of events and conditions within their environmental context. The focus in these ideas is very much on the individual and the skills and traits that they bring to the task of lifespan development.

This early research focus led to an initial conceptualisation of resilience as an 'individual invulnerability' with a focus on the individual qualities of resilient children (Cefai, 2007; Gilligan, 2004). This approach implied that resilience was absolute and unchanging; more of a character 'trait' rather than contextualising resilience within a broader sphere. The idea of resilience being a 'character trait' was further perpetuated through ideas put forward by Daniel et al. (1999) in their model which explored resilience as being on a spectrum of resilience and vulnerability. We will explore their model in more detail later in this chapter, however, a key factor in this model is proposed by Daniel (2003) in his highlighting of the resilience dimension as referring to the intrinsic qualities of the individual. Although there was a growing interest in understanding resilience, not all research at the time was focusing on this 'trait' nature of resilience. Even before Daniel, Wassell & Gilligan's model was developed, Masten (1994) cautioned against using the term 'resiliency' because of the association with personality traits. The potential danger of this association was an acceptance that some individuals had the 'ability' to be resilient whilst others did not which is contrary to the strengths-based understanding within the field of resilience. Masten advocated to instead use the term 'resilience' more flexibly to describe positive adjustment when experiencing disruption. Gilligan (2004) also recognised the potential limitation of perpetuating the 'fixed' idea of a trait-based understanding of resilience and suggested that instead we need to recognise the

variable quality of resilience and the role of reciprocal relationships and interactions between an individual and their personal context as being key rather than an individual's personality.

In recognition of the potential of personal context to contribute to the healthy development of an individual's resilience, Kaplan (1999) posited that resilience was an integrative theory of adaptation of life stress. In this definition, Kaplan recognised that adaptability is key in that there are individual differences in both the *development of resilience* and *response to stressful life events.* For example, in the face of bereavement, no two individuals will respond in the same way; their response will depend upon (amongst others); culture, faith, prior experience, personal factors etc. It is also important to note here that responding in a resilient manner does not equate to (in the case of bereavement) supressing the emotional response and behaving as if there has been no change in the individual's life circumstances. Dent & Cameron's (2003) discussion of resilience as the ability to 'bounce back' from adversity perpetuates the expectation that individuals should just 'move on' from extremely challenging life events. There is a danger in this conceptualisation of resilience as 'bouncing back' because this can minimise the impact of adversity on individuals, thus promoting the expectation that we, as humans, should just be able to 'get over it' despite circumstances which challenge that. Relating to this, it is also important in terms of engendering a resilient approach to be able to manage difficult feelings and recognise that they are valid. This construct of moving on instead of recognising impact could be potentially contributing to the increasing prevalence of mental health needs within our population and is discussed in more detail in Chap. 7.

The development of resilience in children and young people could be viewed as being compromised by the notion that resilience is founded upon risk factors and promotors. This challenge is well illustrated through the consideration of Adverse Childhood Experiences (ACEs), situations where children do not have access to the typical human adaptive systems and are instead in situations of threat beyond the bounds of their capacity (Masten, 2015, p. 286). The ACE Study (Felitti et al., 1998) identified seven categories of adverse experiences, later increased to nine (Bellis et al., 2013) and then ten categories (McEwen & Gregerson, 2019). Felitti et al.'s (1998) research identified a correlation between the number of Adverse Childhood Experiences (ACEs) and later challenges in life. Whilst there is considerable statistical evidence to support the view that ACEs are risk factors which impact negatively throughout a person's later life, there is the risk of giving too great a focus upon risk factors and considering that young people who have experienced a high number of risk factors have a pre-determined negative outcome in later life. The reality is illustrated recently by author Kerry Hudson (2019), who scored eight out of ten on the ACE's measure of childhood trauma, having attended nine primary schools and five secondaries, lived in council flats and Bed & Breakfast accommodation with her single mother, amongst other experiences, and is now a successful novelist. It is interesting to note that many of the characteristics are of families and communities rather than individual children thus re-affirming the potential impact of exploring resilience at a wider systemic rather than individual level.

The research now sought to identify protective forces which set those resilient children apart from those who did not adjust so successfully. From the field of Social Work and as a result of his work with children and young people in the looked after system, Gilligan (2004) summarises this change in thinking about the construct of resilience "… while resilience may previously have been seen as residing in the person as a fixed trait, it is now more usefully considered as a variable quality that derives from a process of repeated interactions between a person and favourable features of the surrounding context in a person's life." p. 94 As a result of this recognition of the potential for external factors to the individual to influence their development trajectory, the idea of 'protective factors' being able to 'balance out' the risk factors; the analogy of a 'see-saw' (Fig. 2.1) is often used to exemplify this. Werner & Smith (1982) go on to argue that protective factors have a stronger impact on a child's developmental pathway than risk factors. This led to a focus on how educators and others within an individual's ecology could support the development of resilience through a focus upon protective factors (Fig. 2.2).

A key theme within the protective factors literature is around the importance of relationships either within the family or externally (Werner & Smith, 2001; Rutter, 2013). Werner's research as far back as 1993 identified stable care and 'appropriate attention' during the first year of life as particularly powerful protective factors

Wave 1: This wave was broadly 'descriptive' and focused on developing an understanding of the concept in its own right.

Wave 2: Focused on an exploration of processes leading to resilience and introduced the idea of 'protective factors' with an emphasis on exploring how protective factors work and how do individuals survive when exposed to risk within their environment. Research in this wave explored notions of proximal and distal factors influencing the development of resilience.

Wave 3: Concentrated on the promotion of resilience through interventions and continued to explore risk and protective factors in more depth. This wave recognised the potential for individuals and settings to make a difference to outcomes for individuals and focused on exploring what could be done to optimise these outcomes. This led to a continued exploration of risk and protective factors in more depth.

Wave 4: This wave, largely initiated by the work of Michael Ungar (2013) in his recognition of the importance of analysing the interactions between individuals and their contexts and individual differences. There is also currently a growing discussion around the possibility of genetic influences on outcomes and how these might interact with the individual and their environment (Rutter 2013).

Fig. 2.1 The waves of resilience research

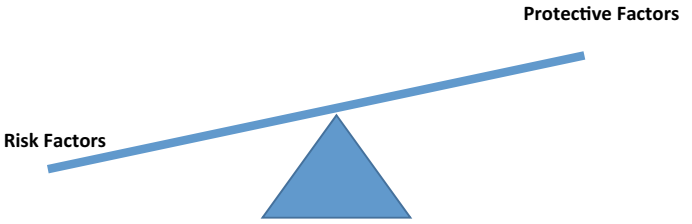

Fig. 2.2 Balance between risk and protective factors

or through a recognition of the opportunities for relationships with others within the wider system of the individual, (such as school teachers). There is a danger of an overly simplistic interpretation of these findings though, as Werner (1993) acknowledged the nuance of the dynamic within the parent/child in her findings within the famous Kauai Longitudinal study. This study was the first study to explore the impact of biological, psychological and adverse life events from birth to mid-life on a cohort which included individuals from a range of ethnic, social and economic backgrounds. The study identified the importance of the dynamic nature of resilience and highlighted the importance of families in contributing to this; considering them to be a 'protective factor' in the development of resilience. However, within this study Werner found that those babies who were socially active with helpful sleeping and feeding habits tended to elicit more positive responses from carers and other adults therefore highlighting the complexity of the dynamic.

In addition to the importance of families demonstrated by the Kauai study, a variety of other protective factors have also been identified within the wider literature through research with survivors of adversity. These are grouped into three broad categories:

- '**Within person' focused** such as: personality traits; cognitive ability and scholastic competence (Condly, 2006); social competence (including eliciting positive response from others, Bernard, 1991); agency (Bohle, Etzold & Keck, 2009); problem solving skills (Bernard, 1991)
- **Relationship focused** such as: relationships with schools' staff (Catalano et al., 2004), Sense of community and social support (Luthar et al., 2000)
- **Context focused** such as: Participation in religious organisations (Ungar, Ghazinour, & Richter, 2013), Staying in school (Ungar et al., 2013).

An understanding of protective factors can help us to conceptualise resilience as a framework from which we can develop an understanding of what is going on (for the individual, the setting, the family). A futures pathway can then be formulated which mitigates these absences and thus optimises the developmental pathway of an individual. For example, a child who lives within a disrupted family environment might have a key person who supports them in the school setting which helps to mitigate against less available care and support in the home setting. Alternatively, an example might be a neighbourhood where there are high levels of youth violence and disruption offers opportunities for youths to proactively engage in problem-solving

the difficulties and suggesting and implementing potential solutions. The potential in understanding the range of protective factors provides us with the opportunity to target interventions with an evidence base; focusing on what works and what has gone well previously thus optimising the potential for the optimisation of developmental pathways.

As discussed earlier, interventions have focused on building an individual's resilience through a focus on the above areas. Examples of this in educational practice include the Young Minds Interactive Resilience Framework (Young Minds, 2012) which provides an explanation and evidence base of the protective factors identified and ideas for how educators might develop these factors within a school environment. However, although it is very useful for educators to be able to access resources such as that of the Resilience Framework, we need to be cautious about drawing causal links. This is because it is difficult to identify whether someone who appears to be well-adapted and has lots of protective factors in place are not just coping because they haven't had the exposure to significant risk factors such as those described by Werner yet.

In an attempt to recognise the interactive nature of risk and protective factors and the links between resilience and vulnerability, Daniel et al. (1999) developed the model shown in the Fig. 2.3.

The resilience dimension is used to refer to intrinsic qualities of an individual; these are personal qualities of the individual or the 'nature of the person' such as their

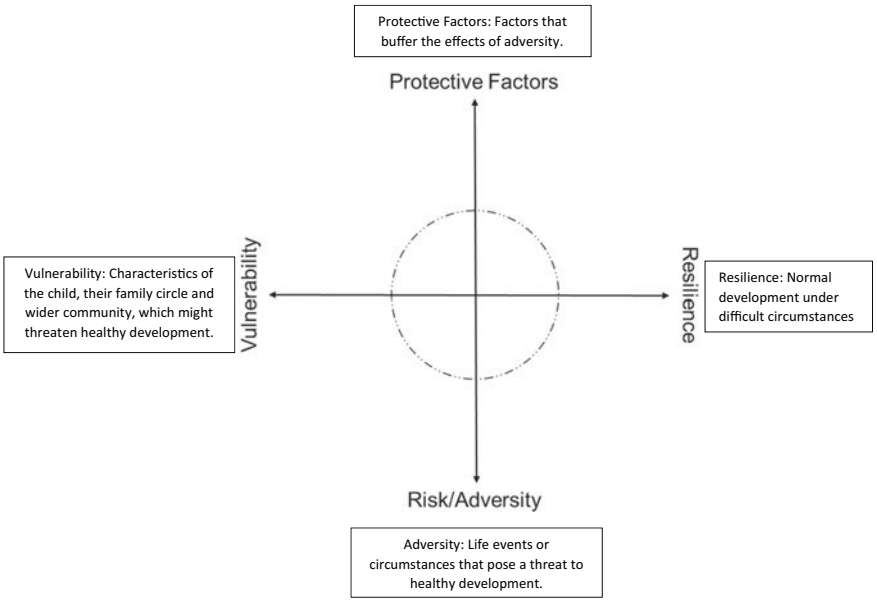

Fig. 2.3 A spectrum of resilience and vulnerability Daniel et al. (1999), p. 61

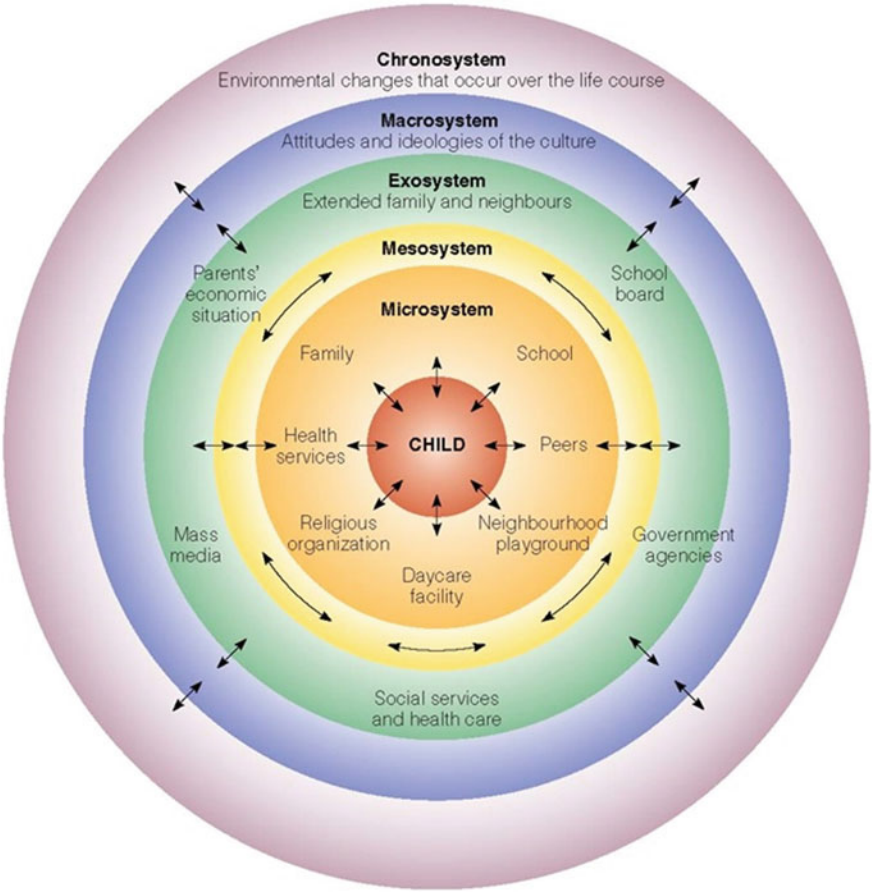

Fig. 2.4 Bronfenbrenner's bio-psych-social-ecological model of human development. Source: http://msnaeemsclass.weebly.com/developmental-theories.html

An example of equifinality in the education arena for a teenager could be when the school environment becomes more important than the home environment.

The differential impact could be when the protective factor of belonging to a group of friends has greater impact than that of the parents.

Similarly, the cultural moderation aspect would determine how this played out.

For example, if the child belongs to a culture where family and community has greater importance, which would affect the child's appraisal of a negative situation at school. In essence, Ungar's model attempted to enhance Bronfenbrenner's model with these additional principles and are drawn from his own social-ecological model of resilience.

Fig. 2.5 Example of equifinality, differential impact and cultural moderation

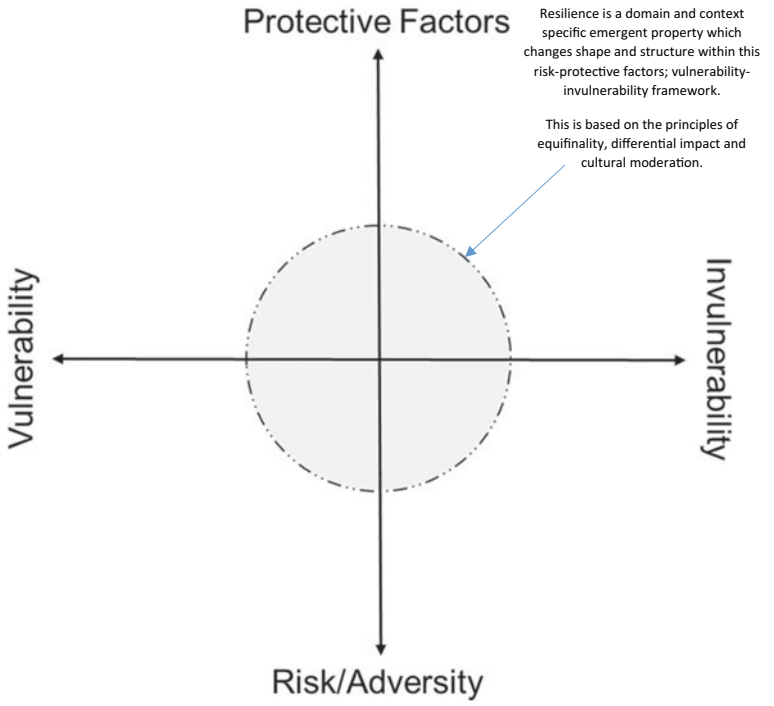

Fig. 2.6 The adapted Daniel et al. (1999) model of resilience

personal traits and behaviours; having a secure attachment; well-developed intrapersonal and interpersonal skills; being socially included and problem-solving skills amongst others. Goldstein & Brooks (2014) highlight the importance of individuals being aware of these intrinsic qualities through: self-cognition (individuals cognitive evaluative response to these traits, behaviour and experiences); self-evaluative (linking to Carl Rogers ideas of congruence between our actual and ideal self (see Rogers, 1959 for more on the ideas of congruence)); and finally self-feelings (contiguity of individuals actual and ideal self which in turn reduces negative self-feelings and maximizes the probably of more positive self-feelings). Through this self-awareness and evaluation an individual is therefore more likely to be situated towards the 'resilience' pole of this dimension.

The vulnerability dimension is defined by 'susceptibility to negative developmental outcomes after exposure to risk factors such as perinatal stress, poverty, parental psychopathology, and disruptions of their family unit.' (Werner, 1993, p. 503). It therefore refers to the more immediate systems around the child which might threaten optimal development such as having an isolated parent, lack of community support and poor housing. The final dimension identified for the understanding of individual differences is that of protective, (such as a positive school experience), and adverse (i.e. parental depression, domestic violence) environments.

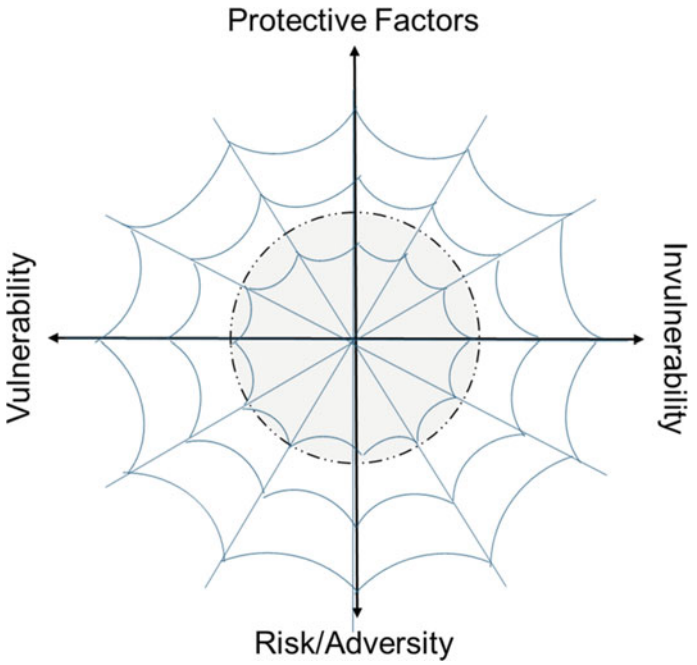

Fig. 2.7 Our developing model of Daniel et al. (1999) and Bronfenbrenner

For example, the wider system could be a particular school, its organisational structure, the physical structure of school buildings/layout, its policies, rules, location, the culture. Within this wider system are all the individual systems such as other pupils, teachers or support staff all of whom reciprocally interact with the wider system and its own structure, reflecting Morin's notion of complexity.

Fig. 2.8 Example of a wider system

This dimension covers extrinsic factors and is therefore located at the outer ecological levels of family and wider community. When considered together Daniel, Wassell & Gilligan argued that these dimensions provide a framework for the assessment of adverse and positive factors at all ecological levels of a child's socio-emotional environment. The two dimensions will interact: an increase in protective factors will help to boost a child's individual resilience. They refer to their model as providing a framework for assessment, however, individual differences which have been acknowledged by a range of authors highlights issues such as; how do we measure what is risk for one person as being a risk for another person? How do we measure comparable impacts of different risky situations? An additional concern is around the use of 'poles' to differentiate between the concepts included on the model, for example—is resilience the opposite of vulnerability; some individuals may appear invulnerable

due to the perception that they have not yet experienced adversity. They therefore may not have had the opportunity to demonstrate either vulnerability or resilience as their internal resources have yet to be tested; should we instead be recognising a subtler, less polarised notion of resilience? Considerations such as these will be explored later in the chapter when we adapt the model to encompass a framework extends our understanding of resilience.

Moving towards this is Luthar, Chichetti, & Beckers' (2000) definition which suggests that resilience is "a dynamic process encompassing positive adaptation within the context of significant adversity" (p. 543). This leads us to a conceptualisation of resilience as that of competence and success despite adversity and disadvantage which is a less polarised view than the Daniel et al. model. This definition is important in the development of our understanding of the concept of resilience in that it highlighted at the time that resilience was not about just coping with every day knock backs, but that the true test of resilience occurred in the face of significant adversity which interfere with an individual's life course development. This also highlights again that not all challenging life experiences are experienced equally, but that there is a recognition that when risk factors and stressful events outweigh protective factors then even the most resilient of individuals can develop problems.

Resilience as Dynamic and Interactive

More recently, the interactive and dynamic nature of resilience has been the focus of discussion in the wider literature. Rutter (2013) proposes that "resilience is an interactive phenomenon… indicating that some individuals have relatively good outcome despite having experienced serious stresses or adversities" (p. 474). This definition still appears to place the emphasis on resilience as an individual construct although it differs from earlier definitions in its acknowledgement of the dynamic nature of this construct and individual differences within it. Ungar (2013) adds to this, focusing on resilience as more of a *process,* (rather than individual phenomenon), which can optimise an individual's ability to cope when facing significant adversity. This definition from Ungar recognises the potential for other factors outside of the individual to influence the coping mechanisms of individuals, particularly in relation to his emphasis on the *quality* of the multiple systems that an individual interacts with and how the *quality* of these systems accounts for most of the individuals developmental success under negative stress. This recognition of the wider influences on individuals as systems is reinforced through Masten (2016) in her suggestion that resilience is "the capacity of a system for successful adaptation to disturbances that threaten system function, viability or development" (p. 298). The idea of successful adaptation recognises the range of, and variability in, influences on optimal development. It also highlights the need for exposure to risk in order to develop resilience; we need to be able to develop strategies to help us to 'cope' in stressful and challenging situations, but we can only develop those strategies after exposure to challenge and risk. In his 2013 paper reviewing the literature on resilience, Michael Rutter illustrated

this using the analogy of immunisations; we develop a resistance to the disease as a result of being exposed to the disease in the first place, not from completely avoiding contact. Rutter (2013) called this the 'steeling effect' because this has a strengthening effect with regards to later adversity. In this paper, he also introduces the idea of 'bidirectional effects', which recognises the reciprocal interactive nature of relationships. This can be illustrated through the example of how a parent might respond to a child refusing to go to school because of being bullied and how the child then responds to that parent, compared to how a parent responds to child refusing to go to school because they have not completed their homework. These 'bidirectional effects' are key to a deeper understanding of resilience and will be explored in more detail later in this chapter.

Until this point, the literature described has focused primarily upon within child factors which may/may not contribute to the development of resilience. This construction as a consequence of this is also is in danger of blaming the individual when things go wrong or they fail to adapt to adverse situations and events. This approach has the potential to limit individuals and does not provide a platform from which to explore the potential for further development. In line with Masten's (2015) ideas described above and presented as part of Wave 4, this chapter will now move on to presenting the need for a more systems-based approach to exploring and analysing resilience, recognising the range of systems an individual is situated within.

Resilience from a (Complex) Systems Approach

Systems thinking emerged from a critique of the reductionist approach of researching phenomena by breaking it down into its constituent parts in order to understand it. By contrast, systems thinking seeks to explore a phenomenon either as a system or as part of a system. For example, exploring resilience as a characteristic of just the individual would not be sufficient, rather it is better to explore resilience within the individual in a way that recognises and acknowledges that the individual is a system within other systems. This includes how the individual is situated within a family, community and a society. Resilience research came to recognise this as discussed earlier but referred to these other systems as proximal or distal factors that interacted with and predicted risk or protection. Such models came to be known as social-ecological approaches.

Ungar and colleagues (2013) made the connection between Bronfenbrenner's (1979) seminal ecological model of human development and the parallel advances centred around a social-ecological interpretation of resilience. Bronfenbrenner later updated this model to emphasise the importance of proximal processes of Person, Place, Context and Time (PPCT) as being at the heart of human development which resulted in a re-labelling of the model to a bio-ecological theory; a fuller explanation of this updated model can be found in Bronfenbrenner & Morris (2007). The basic principles of Bronfenbrenner's bio-ecological model emphasised the importance of context on human development. Its major feature included the concept of a

range of nested systems centring around any individual or organism. These are the microsystem, mesosystem, macrosystem (and a later added chronosystem). In terms of education, the microsystem is concerned with the immediate (social) environment in which a child is situated. Those in the microsystem have the most direct impact or influence on the child and would include the parents, siblings, friends, teachers, extended family—all those with whom the child has immediate, direct and day-to-day interactions. The mesosystem involves the interaction between those actors who are in the microsystem but the interactions may not necessarily involve the child directly, but still have an influence on them. The macrosystem is further away from the individual child and includes the wider community, such as the school, church, community, local authorities—some would also include socioeconomic status, ethnicity, culture and other features of the wider environment that have an influence on the meso and microsystems. The child is not likely to have direct interaction with the macrosystem. The chronosystem refers to the time and historical era within which a child is living and how that impacts on their life. For example, the impact of technology in current times very much shapes the child's interactions at the micro, meso and macro levels.

Underpinning this is the idea that the individuals own repertoire of characteristics interact in idiosyncratic and dynamic ways shaping their world and in turn shaping their own ongoing development. This is where the aspects of Person, Place, Context and Time become essential elements within Bronfenbrenner's ideas. Place focuses more around the mesosystem and the importance of people and objects and their influence on human development with Person encapsulating the individual's bio-psychological characteristics such as disposition, bioecological resources and demand characteristics. Context encompasses the number of connections and nature and quality of these connections; this might include closer influences such as those systems within the mesosystem but also those more distal factors from within the exosystem such as decisions made by social institutions (i.e. whether or not a school might introduce an after-school club or a parents work place adopting flexi time to allow parents to leave work in time for school pick ups) and also incorporating the macrosystem such as government policy decisions etc. Finally, Time refers to continuities and changes over time which can be internal (such as aging/disease) and consider an individual's lifecourse or through successive generations.

These ideas moved the debate and research on resilience from a focus on the individual to the individual as a system within wider dynamic and interactive systems—all of which influence an individual's resilience following adversity. However, as pointed out earlier, there has been less focus on exploring the multiple and simultaneous interactions between systems such as individuals, family, school, rather than just dual interactions of, for example, individual-family, individual-school, family-school. Instead, it is necessary to explore the multiple interactions between these mesosystems and the other systems in order to explore resilience in a more nuanced way (ahmed Shafi et al., 2020).

Bronfenbrenner himself acknowledged that his representation of the bio-psycho-social-ecological system appeared to reduce interactions into a necessary order rather

than the complexity as described above. Ungar made the links between Bronfenbrenner's ideas and resilience in a number of papers of which the Ungar et al. (2013) was a significant contribution. In this review of the research they found that there were additional features which contributed to our understanding of resilience: the more that a child is exposed to adversity, the more a child's resilience depends on the quality of the environment, (rather than their personal qualities), and the resources available to nurture and sustain well-being. They emphasised that access to these resources that nurture well-being were shaped by negotiations between individuals or groups (such as families and communities), and those such as schools and local governments who act as the gatekeepers to the resources. How successful these negotiations were and the extent to which they were 'constrained' or 'facilitated' either optimised, or was detrimental to, the efficacy of the individual and the group. These factors can operate between many of the different systems highlighted in Bronfenbrenner's original model with Ungar et al. (2013) re-emphasising Bronfenbrenner's original argument that no one system has supremacy over any other system; instead system interactions across levels are understood to be complex and the boundaries between these different levels flexible. Ungar's (2013) social ecological model attempt to respond to this and posited three principles of resilience: *equifinality, differential impact* and *cultural moderation. Equifinality* referred to how in particular circumstances, one system or another can become more influential to the outcome, where in certain circumstances, the environment is more important than individual characteristics and sometimes, individual characteristics are more significant. The *differential impact* notion suggests that protective factors can have a differential impact in different contexts and time. This differential impact results from both an individual's perception of resources available and the structures which are in place to make it more or less possible to fully exploit the available and accessible resources; this concept leads to a significant point of divergence between positive psychology and the study of resilience. If, for example, there was an intervention focusing on the development of self-efficacy such as assigning a mentor for an individual, this may have a small positive effect on the individual and others involved in the mentoring programme. The mentoring may have a small positive effect across the population involved in the mentoring programme. However, there may be no effect, or a much larger effect than expected when mentoring is provided for an individual facing high levels of adversity; thus, helping to explain complexity rather than homogeneity in the way that humans in different contexts respond to adversity. This leads on to *cultural moderation*, which, although implicit in the principles of equifinality and differential impact, brings to the fore the cultural impact on an individual's appraisal of a situation and the extent to which this influences resilience and suggests that how individuals explore and negotiate for resources is influenced by culture (Chen & Rubin, 2011).

In their discussion around equifinality, differential impact and cultural moderation, Ungar et al. (2013) suggest that the environment is therefore often more important that the individual, however, we would argue that this ignores that role of individual agency. In 2017, Paul Downes also recognised this and proposed a further model of resilience, which attempted to reconceptualise foundational assumptions of

resilience, by proposing a cross-cultural, spatial systems domain that took account of individual agency in resilience trajectories. Downes drew upon both Bronfenbrenner and Ungar's models of resilience and, builds on a re-interpretation of Lévi-Strauss & Weightman (1973) ideas of cross-cultural observations of contrasts between concentric and diametric spatial systems. A diametric spatial structure may be visualised as a rectangle split in half, whereas concentric spatial structure is a circle with another inside it, essentially sharing a common central point.

Both these structures exist together as part of a system of relations and are mutually interactive. However, in diametric space, both oppositional realms can be detached whereas in a concentric space, there is an assumed connection. Downes uses this notion of space as an application of self to other in his phenomenological account of resilience. Particularly, how individual agency interacts with various aspects of their contextual and spatial systems to challenge the notion of 'bouncing back'—because bouncing back assumes a return to the same place. Downes' approach recognised that resilience and how an individual's agency interacts in the concentric and diametric spaces of relation means that a person does not 'return' to a previous place before adversity, but actually moves along in time and space, depending on their phenomenology. This offers an explanation that brings individual agency and interpretation into sharper focus more so than previous models, which have objectified the individual as having intrinsic qualities, such as intelligence, calm manner and other such factors that impact resilience. Biesta (2016) develops this further with his comments around the role of agency and his emphasis on the need for us as humans to develop within an action orientated framework where we rely "on the activities of others to take up our beginnings, yet others will always do so in their own, unpredictable ways… we can only be free when we act." (p. 92). However, only Downes has really focused on this in relation to resilience, offering a phenomenological focus within his suggestion that 'individual experience is a system of concentric and diametric spatial relations in interplay'. This thereby further exemplifies the complexity of resilience and how not only does the individual reside within spatial systems, but there is agency and lived experiences which can shape the trajectory of resilience.

Thus, a range of systems models have emerged and several of these have been useful in resilience research. However, Morin (2008) argued that whilst systems thinking recognises the existence of an entity within a network of systems, it still takes a 'reductionist type' approach by presenting the system as a whole. Systems thinking does not fully appreciate the emergent qualities of an interaction between the parts and the whole. Morin called for a paradigmatic shift in thinking which acknowledges the complexity of systems thinking, suggesting that:

> Life is a cluster of emergent qualities resulting from the process of interaction and organization between the parts and the whole, a cluster which itself retroactively affects the parts, the interactions, and the partial and global processes that produced it. (p. 374)

This summarises what Morin referred to as complexity theory. Through the continual and dynamic interaction between the parts and the whole, the processes and products that bring the phenomenon back to its original state in a loop, demonstrate

how neither can be separated. For example, individuals produce society, which then produces individuals. Systems, however, have to operate in certain ways to ensure that they maintain themselves as separate systems that are not subsumed into the wider system of which they are a part. For example, in order to maintain one's identity as a distinct being (or system) there are times when a person needs to close themselves off from threats or disruptions (in the form of adversity) from the wider system/s. An open system organises to "close itself off from the outside world to maintain its structures and its internal environment" (Morin, 2008, p. 374) in order to keep itself integrated and steady. In the case of adversity, such as parental neglect, a child can close themselves off from other adults in order to protect, and thus maintain itself as a distinct system. This may be interpreted as becoming 'hardened' or 'streetwise' or tough'. Thus, resilience is the process by which the system adapts in order to respond to disruption in its environment but also to protect itself as a system.

Complexity theory enables us to bring forth both individual aspects of resilience but locate them within the wider systems of which they are a part. It recognises that systems interact in a way that is responsive, agentic and impacts on the overall system, moving from the potentially reductionist view of systems to a recognition that we are interacting with complex adaptive systems in which each component part feeds back to change the system of which it is a part (Levin et al., 2015). That which emerges is dynamic and interactive and calls for a more dynamic and interactive model of resilience that accepts the proactivity and agency of the individual in a system.

The Dynamic Interactive Model of Resilience

Given the contributions of these models, each of which have added to and built our understanding of resilience in contexts, we present a new model, the Dynamic Interactive Model of Resilience (DIMoR) (ahmed Shafi et al., 2020) which draws on complexity theory, to build on Daniel et al., Bronfenbrenner's, Ungar's and Downes' existing models of resilience. This DIMoR is devised to be a more complete representation of resilience that considers both individual agency as well as the range of complex systems that the individual is a part of (see Fig. 2.9). The range of (reciprocal) interacting systems is likely to reflect the particular context, domain and temporal conditions of the individual system, as suggested by Ungar through his concepts of *equifinality, differential impact* and *cultural moderation.* This is because the context and conditions will interact with the individual and shape their resilience at that time and in that space.

In building this model, ahmed Shafi et al. (2020) began by adapting Gilligan's model by replacing his notion of resilience on the x-axis of their spectra (see Fig. 2.3 of Gilligan's model) with vulnerability at one end and invulnerability at the other. This is because resilience was not believed to be at one end of a spectrum, rather that resilience is the emergent property of the range of dynamic and reciprocal interactions between the individual and contextual systems. ahmed Shafi et al. (2020) thus

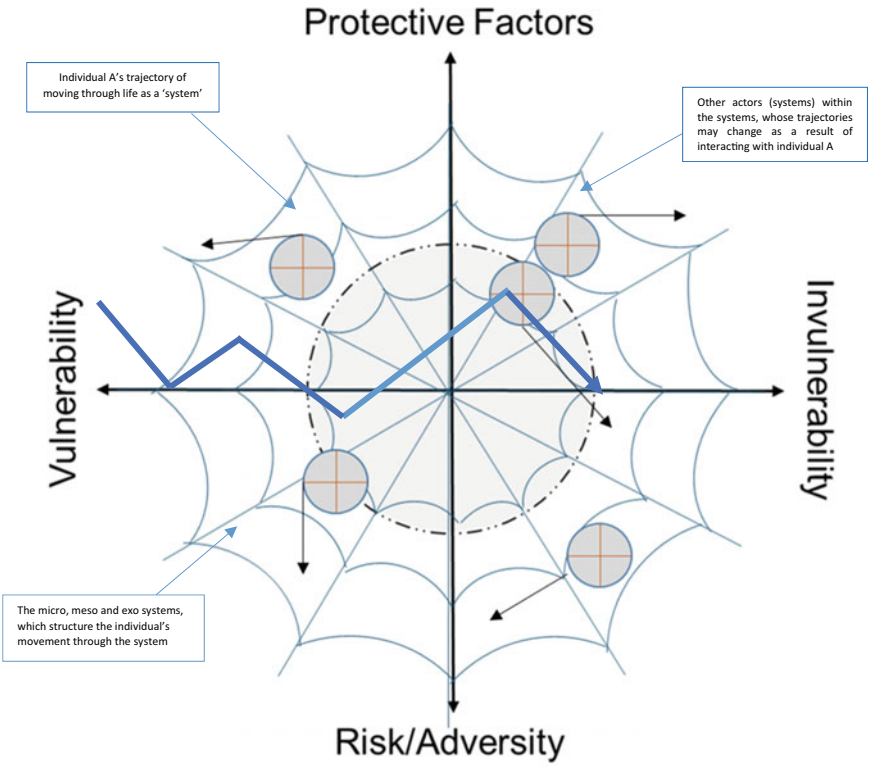

Fig. 2.9 The dynamic interactive model of resilience (DIMoR)

proposed the following adaptation of Gilligan's model (see Fig. 2.6) which placed vulnerability at the other end of the scale. Resilience at the opposite end of the scale to vulnerability suggests that if you are invulnerable then you must be resilient. However, this leaves no room for vulnerability and indicates that resilience is quite simplistic. Evidence suggests that for learning to occur, there needs to be an optimum space where there is some vulnerability which creates an 'openness to learning' rather than an invulnerable 'rigidness' which can prevent learning (Deakin-Crick et al., 2017). Resilience is an emergent property of risk-protective, vulnerability-invulnerability and for this reason, it is presented by ahmed Shafi et al. (2020) as coming out of the cross-roads of these factors. Resilience is also context and domain specific, based on Ungar's principles of equifinality, differential impact and cultural moderation as well as Downes' notion of agency.

ahmed Shafi et al. (2020) then proposed an adapted ecological model which retained the idea of the range of nested systems of Bronfenbrenner, but which recognised the interaction of these systems and the interconnectivity of structures that shape the system. These include, for example, the State, laws, policies and even physical structures, such as location or communities that can structure experiences. This is

presented as a web-like structure in the Fig. 2.7, but retains the concentric circles. Having a web-like structure connects the concentric circles from Bronfenbrenner's model to indicate the structural nature of the micro, meso, exo and macro systems which shape experience. These are dependent on the principles of equifinality, differential impact and cultural moderation as well as the individual's agency within relational contexts. The adaptation of Gilligan's model as described in the Fig. 2.6 is then super-imposed on top of the web-like structure, thereby taking account of both the (structural) systems around the individual as well as the individual's own risk-protective/vulnerability-invulnerability matrix. An interaction of all these is what shapes the emergent property of resilience (represented by the dotted lines).

The next part of the model building took the individual system in the Fig. 2.7, 'zooming out' and placing it within a much wider context (system) that illustrated the range of other such 'individual systems' that are also situated within a much wider contextual system of society, itself embedded in the systems of the Earth's biosphere (Folke, 2016). This wider system features the same web-like structure and the same risk-protective/vulnerability-invulnerability matrix that would be present within any individual system or organisation.

The result is the Dynamic Interactive Model of Resilience (DIMoR), represented below. The smaller 'systems' (orbs) added to the DIMoR Fig. 2.8 represent the individual systems as they navigate any given wider system. For example, the individual pupil navigating the school system whilst reciprocally interacting both with other pupils and teachers as well as the school as a system. The school itself can be further zoomed out as part of the education system, and further again to society, to global society and so on.

The DIMoR, as a theoretical model, shows how individual systems (A) are agentic actors moving through life navigating containing other such individual systems within the wider web-like system of society. Dynamic and reciprocal interactions with all of these systems can influence the trajectory of those individual systems. This illuminates our understanding of resilience being less about the individual alone. Rather resilience is a domain and context specific emergent property of the interactions between the individual and their contexts. Consequently, resilience cannot simply be an individual trait, but rather is a responsive feature which changes shape and structure within its own risk-protective, vulnerability-invulnerability framework (Fig. 2.2) as well as that of the system within which the individual is situated. It is important to note that the individual could be any unit, such as a school, an organisation, a business, a community and so on.

This model thus builds on the existing models of Daniel et al., Ungar and Bronfenbrenner, draws on complexity theory and, like Downes, acknowledges individual agency, but most importantly forefronts the reciprocal interactions which shape resilience in the individual which can in turn shape the resilience of society (and vice versa). This model represents the dynamic nature of resilience that is context, domain and even relationships specific which, although alluded to in previous models has not been fully expressed in one model.

Conclusion

This Chapter has sought to explore the concept of resilience and assess the contribution of a range of seminal models to our understanding of it. In so doing we have highlighted how each model presents a different dimension of the picture, all of which present a different aspect of resilience. In the DIMoR model we have tried to build on all these models and present a complete picture of resilience without reducing it to its parts, nor build a holistic model that then loses the role of the parts. In so doing we retain the complexity of the nature of resilience in humans that is both dynamic and interactive.

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Chapter 3
Resilience and Society

Paul Vare

Abstract The focus of this chapter is wider than that of other chapters in this book because its focus is the environmental 'web' of the Dynamic Interactive Model of Resilience (ahmed Shafi et al., 2020). The environment is characterised as a multi-dimensional, complex adaptive system. Guattari's notion of different ecological registers (environment, social relations and human subjectivity) is introduced with the addition of technology as proposed by Pringle (The ecosystem is an apparatus: From machinic ecology to the politics of resilience. In: Pringle T, Koch G, Stiegler B (Eds) Machine. Meson Press, Lüneburg, 2019). This leads to a *socio-material* stance being taken in understanding how resilience is enhanced at society level. Three examples of research into social resilience building illustrate, among other things, the importance of boundary-crossing—a process of pro-actively linking different actors or social sectors. Consideration is given to the question of measurement and assessment of social resilience before concluding that learning is a central feature of any resilient building process and that this in turn is enhanced by openness and the sharing of power.

Introduction

It may seem unnecessary to dedicate a discrete chapter to resilience and society when in the preceding chapter we have characterised our Dynamic Interactive Model of Resilience (DIMoR) (ahmed Shafi et al., 2020) as a process already embedded in social-ecological systems. It is the nature of this embeddedness however that begs further exploration as does its implications for the way in which we set about securing societal level resilience.

Earlier in this volume we established that our notion of resilience extends well beyond narrow definitions of 'bouncing back' after a disturbance. Definitions of resilient societies are discussed below but at this stage it is enough to say that

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resilience should be understood more broadly than as a quality that one either has or lacks entirely. Taking this a step further, Vandana Shiva (Arguello Sanjuan et al., 2016) equates resilience with survivability, arguing that a resilient system:

> … should, like all living systems, have the capacity to self-organise and to self-heal—to repair from within. (Ibid, p. 2)

That is to say, to *be* is to have some degree of resilience. Our concern therefore is the extent to which this quality can be enhanced, expanded and even enjoyed.

Society as System

As discussed in Chap. 2, an individual human subject moving through life will constantly encounter other entities, each one a system in their own right, that will act upon the individual just as the individual acts reciprocally on them. This emergentist view is similar to that proposed by Arendt (1958) who recognises how each individual's trajectory is frustrated by those of others in an apparently haphazard process of becoming. This understanding of human subjectivity is described succinctly by Osberg & Biesta (2008) who go on to show how learners' horizons can be limited by traditional educational approaches that aim to maximise homogeneity among students rather than promoting diversity. In terms of resilience, it should not be surprising that increasing diversity among individuals is seen as a promising strategy given that high biological diversity is widely understood to enhance the resilience of ecological systems. Away from the classroom, social capital, or our network of 'relationships of mutual acquaintance and recognition' (Bourdieu, 1997, p. 51), is likely to be one of many determinants of resilience levels among both individuals and societies as are interactions with our multi-faceted environment.

Turning then to this complex environmental web, we include not only the biophysical world, fundamental though that is, but also human society, its technology and the cultural patterns of thought and action that guide each of us and to which we each contribute. For example, in a prescient awareness of the seriousness of the threats to our natural environment, Guattari (1989) recognises that technical solutions alone will be inadequate. Drawing on what he terms *ecosophy*, Guattari calls instead for an 'ethico-political' approach that pays equal attention to three 'ecological registers': The environment, social relations and human subjectivity (Guattari, 1989, p. 28).

Thinking of the environment as systemic registers can help us to grasp the importance of each aspect while taking care not to lose sight of the complex whole. Diverse authors accord a special role to each of these dimensions with many calling for a re-grounding in nature in the first instance (Naees, 2005; Wilson, 1984; Louv, 2005). Bonnett (2017) highlights the strength to be drawn from attentiveness towards our environment and how, for example, a strong sense of place can sustain us. Nature has a significant role to play here. If we are not attentive to our environment, particularly to the myriad relationships in the natural world around us:

> … we enter ontological free fall: Our lives untouched and unsustained by a world that we pass through but do not inhabit. (Bonnett, 2017, p. 83)

This speaks simultaneously to our individual resilience as well as our connectedness to the wider world. Bonnet contrasts a purely scientific, reductionist understanding of nature with a phenomenological appreciation of relationships in nature that help to create unique places and the interplays between this and our own cultural lives. In this way we not only value the *otherness* of nature but draw strength from the way in which it becomes a part of us.

In our hunter-gatherer past, as in some indigenous societies today, this may be a taken-for-granted assumption. For a variety of cultural and historical reasons[1] we struggle today to recognise this oneness with our environment. This is not simply a function of our experiences of nature being mediated by modern technology, although that must also be a concern, rather it is a more deep-seated failure to recognise how our own human subjectivity is created through all the dimensions that comprise our environment. Pringle (2019) builds on Guattari's *Three Ecologies* making a strong case for including machines in our foundational understanding of ecology itself. Without even considering the implications of artificial intelligence and technologically enhanced humans, we can already observe the way in which machines, from national grids to microchips, are deeply embedded in our social, cultural and physical environment.

> Machines, by magnitude, complexity, availability, or mass production, are inherently social devices. They never leave us alone. (Pringle, 2019, p. 51)

While making the case for the ubiquity of machines, Pringle shows how the boundaries between the physical and social elements of our environment are blurred to the extent of becoming indistinguishable.

While in humanist education research there is a long tradition of including the role of the material as something used by people, a post-humanist stance, such as that taken by Sørensen (2009), places humans not above materials but *among* them:

> These materials may be used by humans, but they may also use the humans and influence and change the educational practice, which then is no longer particularly human; instead it is *socio-material."* (Sørensen, 2009, p. 2)

The concept of *sociomaterial* research in education is adopted by Fenwick et al. (2011) as an umbrella term for approaches that explore human development through our integrated physical and social spheres. Appropriately these approaches include complexity research as well as Actor Network Theory (Latour, 2005) and Cultural-historical Activity Theory (Engeström, 2001).

The latter is derived from work initiated in Soviet Russia where Lev Vygotsky expanded psychological models of learning by highlighting the role of cultural artefacts, chiefly language, in the learning process.

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[1]The 'blame' for this human-environment separation in Western culture has been placed variously on Plato, Christianity, the Enlightenment (with a special mention for Cartesian dualism) and the capitalist economy.

> The insertion of cultural artefacts into human actions was revolutionary in that the basic unit of analysis now overcame the split between the Cartesian individual and the untouchable societal structure. The individual could no longer be understood without his or her cultural means; and the society could no longer be understood without the agency of individuals who use and produce artefacts. (Engeström, 2001, p. 134)

This understanding of learning as a social rather than an individual process, underpins Cultural-historical Activity Theory, which takes as its basic unit of analysis an *activity system* comprising a subject acting on an object using mediating artefacts and having its own rules and division of labour (Engeström, 1987). While Vygotsky's original iteration of Activity Theory focused on the individual, his follower, Leont'ev, extended this to include collective activity with the understanding that systems can learn as well as the people within them (Engeström, 2001).

If systems of activity can learn, then why not whole societies? While Vygotsky identified language as critical in passing on cultural knowledge between generations, more recently we have come to understand that our cultural learning predates even our first words. This is achieved through what Lent (2017) describes as a pruning process whereby a child's neural pathways are strengthened (or left to wither) depending on their pattern of use as they learn to follow behaviours, speech acts and other cultural norms in the society into which they are born. In this way Lent sees culture 'sculpting' our human subjectivity through a network of meanings accumulated over generations. This cultural understanding of self in relation to society is implicated by Butler (1993) as the process by which we are all gendered far sooner in life than was realised hitherto; for Butler there is no 'self' preceding or outside a gendered self:

> … gendering is, among other things, the differentiating relations by which speaking subjects come into being… the 'I' neither precedes nor follows the process of this gendering, but emerges only within the matrix of gender relations themselves." (Butler, 1993, p. 7)

Whom we become therefore, both as an individual and as a society, is a function not only of our biology and our lived experience but also the thought and culture of so many who have gone before us. And so to our multi-layered environment we must add what Gregory Bateson (1972) calls the 'ecology of ideas' that extends beyond the boundaries of individual minds to establish a wider system of thought. Crucially, Bateson observes how this can work for good and ill noting that there is "an ecology of bad ideas, just as there is an ecology of weeds." (Bateson cited in Guattari, 1989, p. 27). Just as environmental conditions can sustain us or render us vulnerable and our own machines can serve us or harm us, so our ideas, and the cultural outcomes that they generate, will require judicious navigation between their risk-laden and protective features. At the societal level this is often a political undertaking, a point I return to below.

The environmental web in our model of resilience (DIMoR ahmed Shafi et al., 2020) is thus understood as being simultaneously social, cultural, historical and physical while each dimension is interrelated with the others thus increasing the complexity of the whole and rendering it impossible to understand in terms of simple linear causalities. As Folke (2016) reminds us, complex adaptive systems

are characterised by agents that interact in unpredictable and unplanned ways. New properties emerge when interacting elements feed back on the system to create a new phenomenon. Such complexity leads Folke to conclude that:

> The resilience of individuals, groups, and communities is tightly coupled to this interplay and the emergent properties of the whole. (Folke, 2016, p. 6)

Compared to linear modes of thought, unpredictable emergence seems unworldly; indeed, in a review of the conceptual foundations of emergence theory, Clayton and Davies (2006) explain that the motivation for emergentist thinking was originally metaphysical. Empirical studies have since demonstrated the real world presence of emergent properties, with life and mind often cited as familiar cases, i.e. they are genuinely novel properties that are not predictable from a study of the components from which they emerged yet they are irreducible to any of those components. In providing a social example of emergence, Pueyo (2014) cites economic recessions as a recurring feature that cannot be explained in terms of microeconomics, 'hence, recessions are an emergent property of capitalism' (Ibid, p. 3434). This is not to suggest that we adopt a fatalist stance towards our situation, characterised as it is by an enduring inscrutability, rather it impels us to better prepare for the unexpected while striving to understand the sources of that unpredictability so that we might extend our horizon of forewarning.

All of which serves to illustrate the complex nature of the web device that forms the background of the DIMoR (ahmed Shafi et al., 2020) heuristic, it also underscores the dynamic nature of the agents that move within the model. There are of course limitations in constructing any static heuristic device whose function is to make visible a complex and dynamic theoretical construct. While each dimension of the environment is partially constituent of the other, it would be a mistake to suggest that any of this is fixed particularly given that an essential characteristic of complex adaptive systems is their unpredictability. Equally, just as the concentric rings in Bronfenbrenner's heuristic modelling are not intended to be seen as hierarchical (Ungar et al., 2013), so we should not attempt to propose a hierarchy among these environmental factors—while accepting that the biophysical environment pre-exists and continues to support every aspect of our experience. It is critical to remain cognisant of the *context* in which these interactions are played out, for this will determine the relative importance of each dimension. The key issue is to avoid giving an a priori emphasis to a single approach in the assumption that it can more assuredly confer resilience in any given context. Furthermore, as Guattari proposes, it is essential to work *transversally* that is, across the mutually impacting dimensions of biophysical nature, social relations, cultural and technological artefacts and human subjectivity.

What Is a Resilient Society?

Before going further, we should not forget the broad definition offered above by Shiva of resilience as life (Commonwealth Foundation, 2015), i.e. a quality that all living beings have to some degree. By insisting on this broad definition Shiva aims to avoid "dominant and hegemonic interpretations of resilience" (Ibid, p. 2) that can compound the vulnerability of poorer communities in the global South. Those who strive for a definition often do so in order to facilitate measurement as discussed below. While this may appear reasonable, measurement is by nature reductionist and can be readily incorporated into systems of control.

With this caution in mind, there are a number of definitions that can be applied to resilience in relation to social-ecological systems. Quinlan et al. (2015) describe no less than eight, ranging from the narrow engineering definition of an ability to recover from perturbations, through the formal ecological notion of achieving coherence while absorbing disturbances and adapting to them, to the idea of social systems that can learn and even benefit from exogenous stress. In a quest to move towards a more encompassing concept, Benedikter & Fathi (2017) identify four 'lead concepts' of a resilient society:

1. Disaster preparedness as exemplified by the *Sendai Framework for Disaster Risk Reduction* (UNDRR, 2015). A principle player here is the Government of Japan, reflecting that country's proneness to natural disasters. The Disaster Risk Reduction (DRR) approach provides a framework for international cooperation to enhance disaster preparedness and reduce the impact of hazards on social and physical infrastructure and has been closely aligned with education for sustainable development, which is seen as a principal means of implementation (Shaw & Uitto, 2016).
2. An innovative, multidisciplinary approach that focuses on risk adjustment and disaster transformation rather than preparing for and minimizing risks. Lead agencies include the Stockholm Resilience Centre while locally based approaches include the Transition Towns Movement (Transition Towns, 2019).
3. A systematic multi-sector stocktaking approach pioneered by the German Pestel Institut in an effort to define levels of risk and preparedness across developed societies.
4. Technology-based networks centred on 'liberation technology', which aims to ensure everyone has access to the internet, and 'participatory technological innovation' that disperses and democratises the production of knowledge away from established centres such as governments, universities and corporations. This opens the possibility of an eternal practice-theory-practice cycle, termed the 'Multiversity', with the aim of building social resilience.

Given the foregoing discussion on the complex and adaptive nature of social-ecological systems, it is perhaps surprising that only the first two examples make explicit connections to social, economic and environmental interactions that are commonly associated with popular notions of *sustainable development*, which, in

common with resilience, focuses across spatial and temporal scales. The last two examples also stand apart as they have a specific provenance with the third being tied to a German institute while the fourth remains closely associated with California's Silicon Valley.

Direct linkages to sustainable development require some caution given that the task of defining this term has grown increasingly problematic over time, indeed the Worldwatch Institute (2013) declared, with some exasperation, that sustainability had become a *sustainababble*. The concept of sustainable development has nature conservation roots appearing initially in the *World Conservation Strategy* (IUCN-WWF-UNEP, 1980) as an environmental policy concept while it was first used in the UK Parliament in relation to rainforest conservation (Hansard, 1986). By the time it was re-defined in 'The Brundtland Report' (WCED, 1987), the wording had become an uneasy compromise between the economists and environmentalists within the privileged drafting group (Sauvé in Scott & Gough, 2003). The familiar Brundtland definition: "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (WCED, 1987, Chap. 2, paragraph 1) is followed immediately with a clarification of 'needs' that highlights global inequality. Thus the definition emphasises the three pillars of environmental, economic and social development as well as a futures orientation. As Folke (2016) observes, sustainability science has direct relevance to notions of resilience because core sustainability concerns such as biodiversity loss, climate change and gross inequality among people all render us vulnerable. The overlap between resilience and sustainable development may not be exact but it does help us to recognise a wide range of activities, from local to global in scale, which can be seen as efforts to enhance the resilience of societies.

Developing Social Resilience—Some Examples

While accepting that some degree of resilience is being exhibited by simply existing, no society lives in an unchanging vacuum so there is always more to be done to enhance its adaptive capacity and thus its sustainability. Technological developments will play a part of course for, as Pringle (2019) has demonstrated, machines have become an integral part of our ecology. However, any vision of a resilient society depends on a process of *social learning*, as Benedikter & Fathi (2017) observe:

> All things considered, crucial factors for future societies such as sustainable environment and social planning design will not be able to offer adequate tools to deal with upcoming challenges without improving knowledge of resilience in a networked and interconnected multi-level governance approach … (Benedikter & Fathi, 2017, p. 5)

Given the inherent complexity of society, enhancing resilience is unlikely to be a straightforward issue. These are generally complex problems, often paying no respect to geographical or bureaucratic boundaries and having no clear-cut solutions. They are obdurate or 'wicked problems', a concept borrowed from design and

systems planning (Bore & Wright, 2009) and applicable to the DIMoR (ahmed Shafi et al., 2020) concept of resilience. Such issues demand ways of working that are variously inter- (between), multi- (among several) and trans- (overarching/holistic) disciplinary. Experience in international conservation and development contexts (Vare, 2007) certainly involves all of these combinations and involves *boundary crossing* or working across disciplines and social sectors. This is by no means a straightforward task as there will be different conceptual frameworks in play among the various stakeholders. Meanwhile, Meadows (2008) reminds us that reductionist thinking remains vital as there will always be a need for discipline-based expertise even though some highly credentialed experts may lack the skills or inclination to engage with a broad range of stakeholders.

The model in Fig. 3.1 illustrates the way in which different forms of expertise may be linked in addressing a multi-faceted sustainable development issue. In this model, even the relatively isolated experts to the right of the diagram are brought into the process through pro-active boundary crossing by a trans-disciplinary worker whose own expertise lies primarily in facilitation rather than a specific technical area linked to the issue at the centre. Such boundary crossing roles can be found in large corporations, particularly in corporate social responsibility teams that seek to link the expertise present across a company. They may also be evident in higher education institutions where cross-cutting issues such as sustainability are seen as strategic priorities for the institution. Such roles are frequently trans-disciplinary in that they can extend to engagement with wider 'non-expert' society, often with a focus on specific communities, which may be geographically based or identified as communities of interest or circumstance.

In reviewing theories and strategies that attempt to improve linkages between research-based knowledge and action in the context of sustainability, van Kerkhoff & Labell (2006) find that research-based knowledge building falls into four broad categories: *Participation, integration, learning, and negotiation.* In this order they form a hierarchy of deepening engagement. They also suggest that:

> … the relationships between research-based knowledge and action can be better understood as arenas of shared responsibility, embedded within larger systems of power and knowledge that evolve and change over time. (van Kerkhoff & Labell, 2006, p. 445)

That said, the depth of engagement in these 'arenas of shared responsibility' cannot be assumed simply by the presence of a multi-agency approach as shown in the first of the following four examples of different activities focused on developing a more resilient society.

Firstly, in line with the DRR concept, the UK's *Community Resilience Development Framework* (HM Government, 2019) acknowledges the strength of adopting a participatory approach to emergency management and integrating this with community led action. It does not, however, appear to provide space for listening to—or learning from—communities. On the one hand this may be justified because this is about emergency planning yet it could also be argued that the more serious the situation, the more important it is to learn in all directions, albeit quickly. In this case, roles

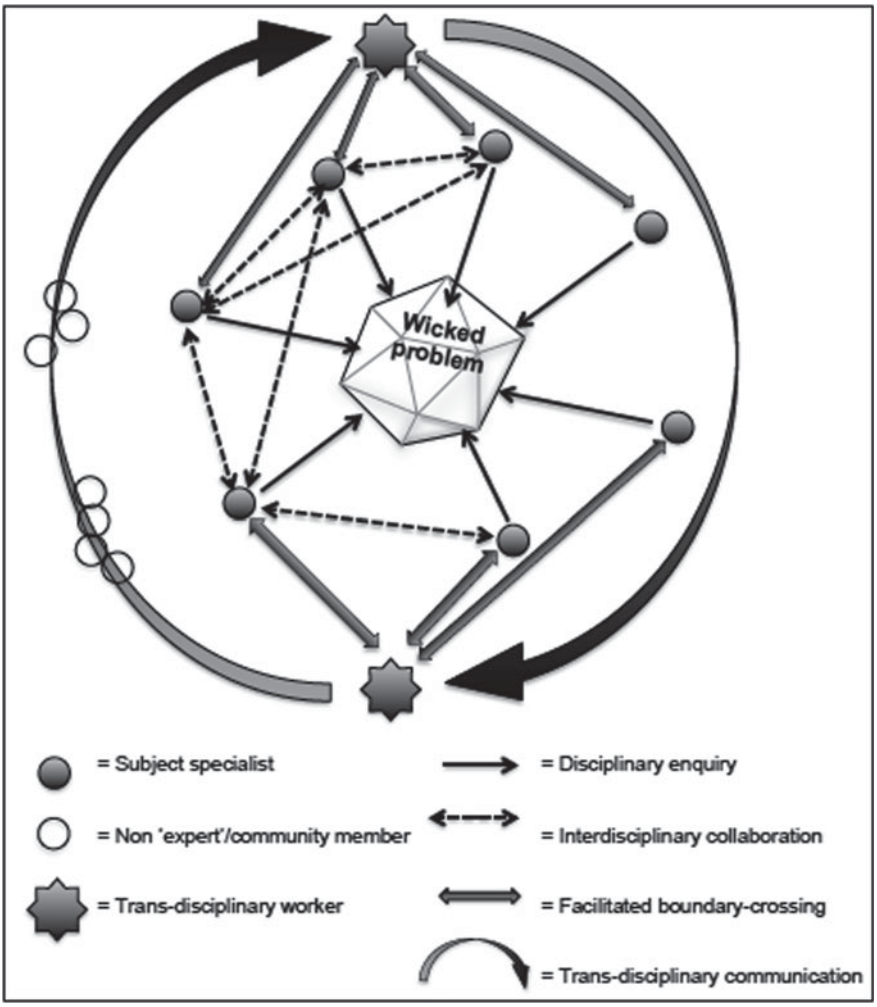

Fig. 3.1 Building resilience: Inter-, multi- and trans-disciplinary working on a 'wicked problem'

and responsibilities are to be clearly defined by the Government's responder agencies; neither the word 'negotiation' nor 'negotiate' appear anywhere in the 17-page document. The emphasis here is on preparedness rather than learning.

A second UK example also features a multi-agency approach, this time at local government level. A multi-agency risk assessment conference (MARAC), is a collaborative approach initially instigated by local police forces to tackle domestic abuse; it has since been extended to include the wider community in order to tackle anti-social behaviour (ASB). This community or C-MARAC approach has brought several benefits, not least the constructive engagement of voluntary groups, which has encouraged creativity and innovation, and the clarification of risks from multiple perspectives:

> … they quickly secured the involvement of many organisations and departments which had previously been reluctant to attend meetings. Those who had seen ASB panels only as a means to justify the use of enforcement action soon appreciated this problem-solving approach could successfully manage risk present on behalf of both the victim and perpetrator across a variety of cases. (Dunn, 2018, p. 1)

In this case the Metropolitan Police, realising that being 'in charge' as the responder agency was insufficient, worked with private sector contractors as joint facilitators to initiate boundary crossing between agencies and the wider community in one local area (borough) of London. The process of engagement appears to have included all four of van Kerkhoff & Labell's (2006) categories from participation through to negotiation. Positive results have led to the adoption of the C-MARAC approach across London while maintaining governance at the borough level. In this way the approach exemplifies polycentric governance, a key principle of resilience building (Biggs et al., 2015).

In another national level example, albeit within a tightly bounded sector, the South African Qualifications Authority (SAQA) working with researchers from Rhodes University investigated learning pathways for progression in work-based learning in the context of sustainable development. Environmental sustainability became a focus for this project because of its complex, multi-faceted nature and the fact that it underpins social and economic development. Importantly, from the perspective of an analysis of resilience, researchers explored the social-material context of workers' learning pathways (Lotz-Sisitka et al., 2017) to identify how specific mechanisms and practices were blocking the translation of policy into practice. This revealed specific issues such as 'switchpoints' between different levels of qualification as well as wider systemic issues such as poverty that impeded progress at the level of basic qualifications. As the foregoing discussion of the DIMoR (ahmed Shafi et al., 2020) environment makes clear, a simple policy analysis or a series of workplace case studies alone would be insufficient to reveal the absences or the cross-boundary practices needed to resolve this complex set of issues. As the researchers conclude:

> The case data show … that it is the social-material *actualisation* of these policies that is important. Hence, we place a high emphasis on the *boundary crossing practices* that are needed to traverse the boundaries created by the social-material boundary making factors and processes. This we argue, ought to be a key focus of any articulation/learning pathways research programme or articulation implementation initiative. (Lotz-Sisitka et al., 2017, p. 179)

The findings of this approach led to both specific and systemic recommendations and crucially an awareness of the need to *negotiate* and cross the boundaries encountered by learners on their pathway to useful qualifications.

The fourth example comprises a study of different social resilience building processes across a global network of protected areas known as *biosphere reserves*. In 1973 the UNESCO Man and Biosphere Programme proposed a global network of designated areas to address the pressing question of how to "reconcile the conservation of biodiversity, the quest for economic and social development and the maintenance of associated cultural values" (UNESCO, 1995, p. 3). There are now 669 biosphere reserves in 120 countries. In a study underpinned by the concept of

resilience Shultz et al. (2018) examined community-based learning, sustainability policy and governance around a sample of eleven biosphere reserves in an effort to explore the 'concept-reality gap'. Space does not permit a full account of their results but they do reveal, perhaps inevitably, a wide variety of approaches and challenges across a diverse range of social-ecological conditions. Given the complex nature of these contexts, learning assumes central importance with examples ranging from those with authority learning to facilitate, to local communities rediscovering their connection to an environment from which they had become isolated owing to draconian attempts to 'protect' it. Above all it is the position of biosphere reserves as an 'in between' space, involving all sectors of society as well as conflicting social, ecological and economic goals, that generates so much need for learning. The results of the study highlight:

- The importance of politics and power in learning for sustainability
- The role of intermediaries and bridging organisations in multi-level governance
- The need for reflexivity and knowledge-action relationships.

These results not only highlight the need for learning but they point to the multi-dimensional and multi-directional nature of that learning. As mentioned in relation to Bateson's (1972) 'ecology of ideas', there is an essential political dimension to all of this. Knowledge is not only equated with power but sharing power is seen to generate learning, which in turn has the potential to build resilience. Boundary crossing practices are made explicit in the second bullet point. The issue of knowledge-action relationships echoes the concept of praxis that goes beyond simply linking theory and practice but demands that we make critical judgements about how we act and consider the implications for others (Carr & Kemmis, 1986). This is of particularly significance to the DIMoR (ahmed Shafi et al., 2020) where reflexivity is an explicit feature of the model. In complex adaptive systems, where we cannot be certain of the outcome of our actions, we can at least try to be clear about the values that underpin them.

Assessment and Measurement

Any consideration of social resilience would be incomplete without some reflection on how we might know whether we are becoming more or less resilient as a society. Such considerations will of course depend on what we mean by resilience. The DRR approach, for example, may include a degree of stock-taking in terms of supplies, trained personnel and so forth while Benedikter & Fathi's (2017) 'Multiversity' example will emphasise the numbers of connections, the diversity of knowledge sources and the potential to further grow these features.

Firstly, we should differentiate between measurement and assessment. Quinlan et al. (2015) point out that while measurement may be more specific, it necessarily involves a degree of simplification and carries the danger of offering a fragmentary understanding of the whole system. Measuring resilience is a fraught process even

at the individual level. For societies, such measurements will involve a range of technical judgements on *what* can be measured coupled with value judgements on *why* one measure or indicator should be rated more highly than another.

Resilience *assessments* aim for a deeper understanding of whole system dynamics, as such they may include measurements but it is the assemblage of these that is important as it will be based on a theoretical understanding of the context as well as agreed definitions of resilience. Quinlan et al. (2015) identify a range of approaches to measuring resilience and echo the DIMoR (ahmed Shafi et al., 2020) view of resilience when discussing the strengths of holistic assessment approaches:

> By identifying which aspects of resilience are most relevant to different cases, the assessment approach recognizes that resilience is a dynamic property shaped by many different processes as well as the larger context in which a system is embedded. (Quinlan et al., 2015, p. 681)

Resilience assessments will be shaped therefore by understandings from different disciplines as well as (potentially) community-based perspectives and should take account of changes over time, as well as rates of change, and across space, as well as at different scales. These dimensions are reflected in the seven principles or strategies for sustaining and enhancing resilience proposed by Biggs et al. (2015):

- Maintain diversity and redundancy
- Manage connectivity
- Manage slow variables and feedbacks
- Foster complex adaptive systems thinking
- Encourage learning
- Broaden participation; and
- Promote polycentric governance.

Reflecting on the DIMoR (ahmed Shafi et al., 2020), this list can be seen to be seen to be overlapping and/or mutually reinforcing. The web within the DIMoR highlights the likely inadequacy of highly centralised governance structures, instead it would suggest the need for proactive efforts to enhance connectivity, which may in turn demand boundary crossing activity. The principle of fostering complex adaptive systems thinking also highlights the need to encourage learning across any social-ecological system.

To guide resilience assessments these seven principles have been arranged by Quinlan et al. (2015) along two axes: A vertical axis, with management and governance at one end and analysis at the other, and a horizontal axis running between system structure and system dynamics. The resulting chart below offers a range of metrics that might be considered in a comprehensive assessment of resilience. The vertical axis in particular helps to highlight a valuable distinction between measurements that consider the system itself (e.g. an ecological survey) and a focus on the way in which the system is governed (e.g. the investigation by Lotz-Sisitka et al. (2017) of the South African Qualifications Agency) (Fig. 3.2).

Whether devising measurements or broader assessments, both will be bounded by technical possibilities and value judgements; the value dimension cannot be avoided, no matter how ‘scientific’ the data appear to be. However, we theorise resilience,

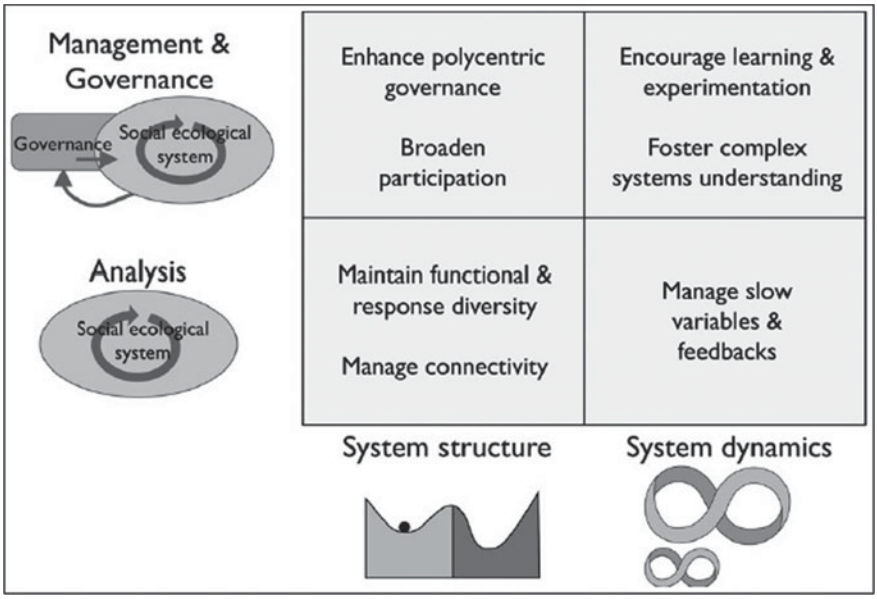

Fig. 3.2 Strategies for enhancing resilience (Biggs et al., 2015) arranged on two axes. *Source* Quinlan et al. (2015), p. 684

the long term health of any social-ecological system will be underpinned by the hard realities of the biophysical environment, indeed Folke (2016) insists that the "biosphere connection is a central observation of resilience thinking" (Ibid, p. 13). Yet even this aspect of resilience is subject to value judgements, especially where exact measurements are unachievable.

In their well-renowned assessment of ecological planetary boundaries, Rockström et al. (2009) propose a range of indices for measuring issues as diverse as ozone depletion and ocean acidification. By remaining within these boundaries, which if transgressed, could have catastrophic consequences, humanity should continue to find that Earth is a safe place to live. Out of nine planetary boundaries identified, Rockström's team estimates that humanity has already crossed three of them: Climate change, biodiversity loss and changes to the global nitrogen cycle. They admit that defining a boundary for the last of these three is not straightforward. Human fixation of nitrogen for agricultural purposes is the mechanism by which additional nitrogen is released into the environment. They envisage this mechanism as a giant 'valve' controlling the flow of nitrogen and so they propose the following:

> As a first guess, we suggest that this valve should contain the flow of new reactive nitrogen to 25% of its current value, or about 35 million tonnes of nitrogen per year. Given the implications of trying to reach this target, much more research and synthesis of information is required to determine a more informed boundary. (Rockström et al., 2009 np)

Phrases such as 'at first guess' can open up spaces for informed debate but they can also be seized upon by vested interests (one might imagine these coming from the

agricultural sector or chemical industries) in order to undermine the science where it counters short-term interests. In this way political and economic values are brought into play despite the existential dangers of overshooting this and other environmental boundaries.

If environmental aspects of social-ecological systems are open to value judgements, the problems are magnified when considering the social side of the equation. In an effort to define a 'safe and just space for humanity' Raworth (2012) uses the nine planetary boundaries proposed by Rockström et al. (2009) to form a 'ceiling' above which human activity should not rise. To this she adds a 'floor' of eleven social indicators below which humanity should not fall. The social dimensions are drawn from the international priorities defined by governments at the 2012 UN Conference on Sustainable Development (Rio + 20). By arranging these boundaries in concentric circles, the resulting model in the Fig. 3.3 forms a doughnut shape, hence

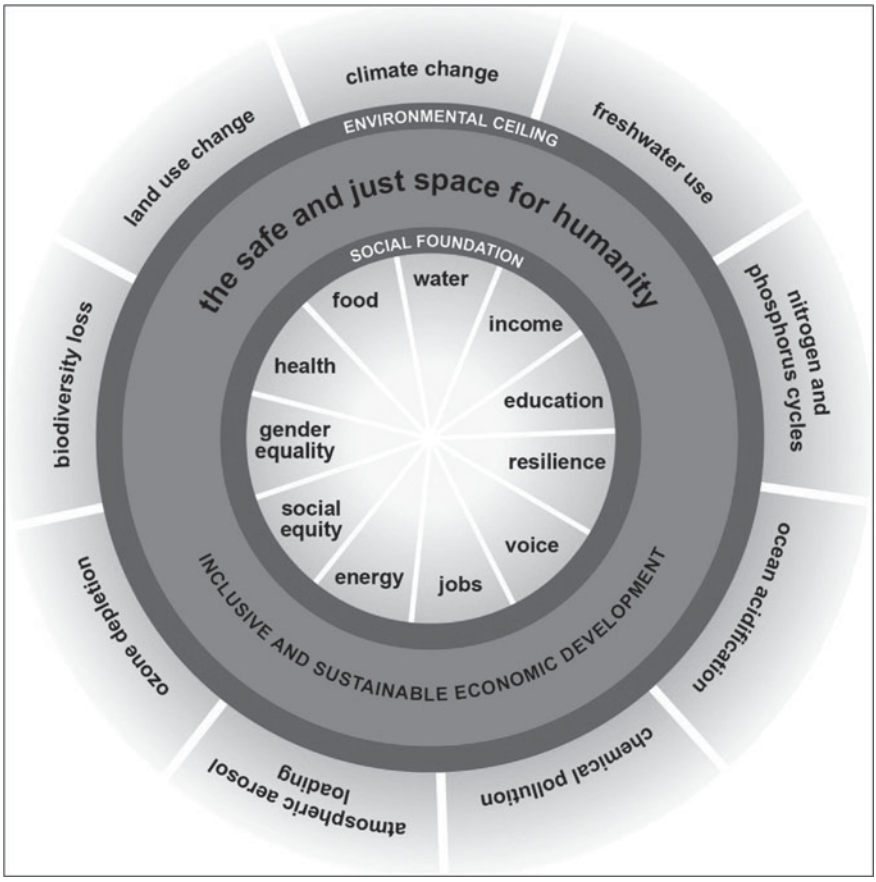

Fig. 3.3 A safe and just space for humanity or 'Raworth's doughnut' (Raworth, 2012)

Raworth branded her subsequent work in this area as 'doughnut economics'. Interestingly Raworth includes resilience as a category within her social foundation and relates this specifically to "climate-change adaptation, disaster-risk reduction, and well-designed social protection schemes." (Raworth, 2012, p. 9) No measures are available for resilience although Raworth suggests looking at multiple dimensions of poverty as an example of how this might be measured.

Clearly the 'floor' of the model is socially constructed and therefore open to debate, as are those environmental indicators which, although based on proposed absolute values, have yet be defined with precision. Assessing this space of resilience will demand negotiation on the one hand and refined scientific observation on the other, all of which has implications for education, which may have a key role—or not—in informing this debate.

Assessment of resilience is thus a political undertaking. It could be argued, for example, that the neoliberal turn in the late Twentieth Century (Harvey, 2005) has protected millions from overbearing state governments while driving technological innovation that has in turn enhanced our adaptive capacity and reduced our vulnerability. Against this, one might highlight the way in which a diminution of state controls, twinned with the pursuit of narrow economic goals, has greatly increased the risk of environmental catastrophe while the widening gap between 'haves' and 'have nots' has loosened the social ties that any model of resilience would identify as critical protective factors. Perhaps the greatest risk is that this does *not* become a matter of political deliberation. For Lazzarato (2009) *depoliticization* is a key characteristic of neoliberalism. By citing various forms of governmentality, that is social mechanisms that lead us to conform in certain ways, Lazzarato shows how the logic of competition and individualism are reproduced without any alternative approaches being apparent. This narrows our latitude for making decisions around what we might perceive to be risky endeavours such as radical deregulation (something that may be presented as simply removing burdensome red tape) and protective factors such as a functioning welfare system (that may be framed as the moral hazard of rewarding idle citizens with tax payers' money). Such framing is by no means unique to neoliberals. Totalitarian governments, from those of the Soviet Union to Nazi Germany, have by definition practiced their own form of depoliticization, ultimately leading their citizens down paths of least resilience.

Towards an Educational Response

Insofar as the complex nature of the social-ecological system underpinning our Dynamic, Interactive Model of Resilience underscores the central place of learning, so it also has fundamental implications for the way in which we pursue formal education. Indeed the pages of this volume introduce a number of educational responses to this concept of resilience.

The interactive nature of our coming into being and its impact on personal resilience points to the value of facilitating a diversity of encounters and potential relationships both within the classroom (Osberg & Biesta, 2008) and beyond. To this we might add a more critical awareness of the diverse layers or registers that comprise our environments such that the richness of our ecological endowment can be better explored, enjoyed and ultimately become a source of inner fortitude. This has perhaps never been a more vital than in the present age of accelerating ecological destruction globally while in the UK and elsewhere, young people are experiencing rising levels of mental health issues; the two are likely to be inseparable.

For Bowers (2002), the appropriate educational response to our unsustainability is to develop an *eco-justice pedagogy* based on the root metaphor of ecology. This would, Bowers claims:

- Highlight discriminatory environmental politics such as the dumping of toxic wastes on the poor
- Reclaim the non-commodified aspects of community life such as relationships, self-reliance, the arts and cultural traditions
- Be mindful of our responsibility to future generations, something which critical pedagogy alone overlooks.

Eco-justice pedagogy is underpinned by a systemic understanding of ecology, one that draws on complexity theory so it has the feel of an appropriate prescription. Bowers does not, however, make explicit our debt to the past or ascribe any particular value to the technological strands that have become embedded in our ecology (Pringle, 2019). That said, it is based on a democratic vision of society, which as we have seen, is likely to be a critical component of a truly resilient society.

A more open-ended version of this pedagogy would avoid the early identification of a single, preferred value framework, rather it would be sensitive to the values that emerge from the engagement of learners with real world situations—and each other. In this way educators avoid imposing their own cultural norms on others. Sen's (1999) definition of human development rests on people having the freedom to lead lives that *they* have reason to value—not lives that others, such as educators, have reason to value on their behalf, no matter how unshakeable the educator's moral conviction. For some time there have been calls within the education for sustainability literature for education to present self-evidently useful and appropriate skills, knowledge and attitudes while simultaneously developing the capacities of learners to navigate complex and controversial social-ecological issues (Vare & Scott, 2007). Similarly, there has been a shift away from sustainability being seen as a prescription with an indistinct goal to becoming "a capacity for critical thinking, reflexivity, and transformation" (Wals, 2017, p. 19) within education. All of which will require appropriate competences on the part of educators (see Chap. 13).

Conclusion

This review of social resilience informed by the DIMoR (ahmed Shafi et al., 2020) has raised a number of issues in terms of the integrated composition of our environment

in the Twenty-first Century as well exploring some of the questions that the DIMoR raises in relation to social resilience.

Having introduced the complex nature of the environment underpinning our model of resilience, I have sought to introduce various definitions of resilient societies while remaining cognisant of the power relations that any definition implies. The diversity of settings in which resilience is pursued demonstrates the elasticity of the term while identifying the central importance of learning, whatever the definition. Just as the contexts for resilience-focused activity vary markedly, so do the means by which resilience is measured. These include a focus on social-ecological systems themselves as well as the governance structures that seek to manage these systems.

The social context in which all this takes place cannot be assumed to be benign nor is the long-term habitability of our planet assured by any means. Achieving a sustainable path for humanity will require a degree of social transformation at many levels; this is essentially a political project that is necessarily underpinned by values. Without being prescriptive about which values should prevail, our understanding of resilience as a quality sustained in a complex adaptive social-ecological environment suggests that social arrangements characterised by openness and power-sharing are likely to prove more resilient than others. This will require contributions from a wide range of disciplines and social sectors, including civil society, which in turn calls for a cadre of boundary-crossing organisations and individuals working proactively to open lines of communication so that systems—and societies—can learn more effectively, thereby enhancing their own resilience.

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Chapter 4
Resilience in Education: Hindrance and Opportunity

Adeela ahmed Shafi

Abstract Education and schools have long been cited in the resilience literature as being a key protective factor for resilience. This Chapter begins by taking an historical and philosophical approach to how education systems themselves may have become an adversity through which people must pass as part of their preparation for society. This is, in part, due to the measurement, standards and marketization of education having an impact on not only young peoples' mental health and well-being, but also that of teachers. It has meant that its quality as a protective factor for developing resilience is challenged. The chapter goes on to consider how resilience can still be developed through education if there is an acute recognition of the range of often competing factors within any given (education) setting/system. In doing so, interventions or approaches designed to develop resilience through education have a greater chance to be successful.

Introduction—The Complexity of Resilience and the Complexity of Education

Resilience as a concept has been the focus of research in a range of disciplines for the last five decades. It may be defined as 'the positive pole of the ubiquitous phenomenon of individual differences in people's responses to stress and adversity' (Rutter, 1990, p. 181). With regards to children and young people in education, resilience refers to a quality that enables them to succeed in educational endeavours despite adversity in their lives, such as mental health, drugs, poverty or other such adverse circumstances and which has come to be known as educational resilience (Wang, Heartal, & Walberg, 1997). As discussed in Chap. 2, the discourse on resilience shifted from an individual deficit and risk model to one of a strengths-based approach, which focused on protective factors that could mitigate against the risks (Zimmerman & Arunkumar,

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1994). This shift meant that the research began to focus on the environmental conditions that could support children at risk and help develop individual competencies such as problem-solving, social skills or autonomy as protective factors and components of resilience (Mandleco, 2000a, 2000b). The research showed that families, schools and communities had a part to play in this (e.g. Gilligan, 2000; Luthar, Cicchetti, & Becker, 2000). Indeed, the research found schools were a key protective factor for children at risk and that children who had a good sense of belonging to their school (Masten, 2001; Garmezy, 1993) with positive relations with teachers meant that they were more resilient to stress and adversity and more likely to succeed in education (Werner & Smith, 1982).

In recent times, education and schools as places which provide education have become to be viewed as a key site for developing resilience and the competencies, which can act as protective factors (e.g. Donaldson et al., 2015; Paterson et al., 2014). This has resulted in rafts of interventions designed to 'support resilience'. However, many of these tend to be discrete interventions that have no wider policy initiatives (Ager, 2013) and in many ways simplified resilience as something that can be developed through individual interventions. However, for resilience initiatives to be effective, the approach needs to be considered in a much more deliberate and whole system (Ager and Metzler, 2017; ahmed Shafi, Templeton, Huang & Pritchard, under review) way which takes account of the many modern complexities of the education system and the schools within it (as highlighted in Chap. 3).

In modern times, education and schools have evolved to become a very institutionalised, sophisticated and complex machinery, playing an important role in the economy as well shaping the social fabric of society. Education is considered an engine for empowering and advancing individuals and society—but at the same time, it paradoxically mirrors and reproduces the inequalities and injustices within society. This complex and contradictory relationship that education as an institution has with society has not come without its own emergent and inbuilt problems. The drive for improving standards in education has led to a standardisation of education (through national curriculums), a measurement culture (through incessant national and international tests), a surveillance approach (though e.g. OFSTED), all combined with a rapidly changing society means that young people need to be resilient just to navigate the systems and structures of a formal education system. This chapter will explore these issues as well as how resilience can be developed *through* education and also how it is needed *for* education.

In doing so we can develop a new generation that can lead the way in dismantling what has become the 'formulaic nature of education' and modernise it to foster the development of individuals, communities and societies to steer and positively adapt to change. Until children and young people develop the skills to cope with the existing structures, only then will they be in a position to change them. We propose the use of the Dynamic Interactive Model of Resilience (DIMoR) (ahmed Shafi et al., 2020) within the educational arena as one way to do this. The model demonstrates the complexity of schools and educational settings and how they interact both with the individual and the communities and society they are situated within. Employing such a model for resilience in education is more likely to have positive and lasting

benefits that go beyond the confines of formal education and schools can indeed be the place where resilience is fostered.

The 'Purposes' of Education

For many societies, education and schooling is a means through which children are prepared for entering the labour market (Carnoy, 2017). This kind of education and schooling emerged in the 19th Century from the needs of a growing industrialised economy that needed specialised labour and skills. With the industrial revolution in full swing, formal schooling was seen as the turning point for a modern conception of childhood. Children (including poor children) were removed from factories and streets and put into schools to be educated (Stearns, 2016). Despite the raft of education legislation that has followed since the 1870 Education Act, many would argue that the education provision of today does not deviate too much from this original model for compulsory education in England of that time (e.g. Roderick & Stephens, 2016; Simmons, Thompson, & Russell, 2014).

However, we are now in the midst of another revolution - the technological and information revolution. This new revolution has, and is, occurring at a much faster pace than any other in history (Collins & Halverson, 2018). It demands a different kind of education, one that fosters and facilitates change, one that prepares children for a world that is not yet known, for jobs that may not yet have been created. We now require another turning point: one which prepares individuals with the skills and aptitude to respond positively to change, including the challenges, uncertainty and setbacks that characterise change, in order to find opportunities that may lie within such conditions. The discourse around developing 'non-cognitive skills', such as grit, perseverance and resilience (Gutman & Schoon, 2012; Garcia, 2016) to respond to a 21st Century which demands transferable and renewable skills needed for an ever changing world (Short & Keller-Bell, 2019) is gaining traction. In essence, education needs to develop resilient individuals to develop resilient communities and societies.

Philosophical Approaches to Education

To propose a refocus of the debate about the purpose/s of education, it is useful to go back to basics and consider what is meant by education, schooling and learning. These terms have become so intertwined and interchangeable and people have come to think of them as the same. Education has been the subject of contemplation since at least the times of Socrates 469–499 BC. Using what is now known as the 'socrative method' Socrates used dialogue and the posing of questions to stimulate debate to further knowledge about the world. Socrates believed that knowledge starts from self-knowledge and criticality because it informs our critical examination of society and the wider world. However, as we know Socrates was sentenced to death for

corrupting the youth and disrupting society. Plato, Socrates' disciple, took a more 'functionalist' model of education whereby he thought education should produce citizens competent in meeting the needs of the state. However, he also believed that pupils should be educated according to their capacities and interests. In this way, he believed you produce citizens who we might today call 'self-actualised', but also useful to the state and society. This view does not feel too different to today in that schools prepare young people for jobs useful to society and that they are rewarded by salary and status depending on their 'usefulness'. Plato and Socrates have been key to questions regarding the state's role in education, aims of education and the curriculum. Today we see the role of states as central in how education systems are set up and shaped across the world (Dale, 2017).

Aristotle introduced the idea of morals in education, again emerging from the idea of the citizen's responsibility towards the state and the state to community. He advocated how education was about instilling moral character in childhood. Rousseau (1712–1778), often referred to as the philosopher of freedom, believed that humans were born free and good, but that society was the corrupting factor (Rousseau & May, 2002). He believed education could play a role in preserving the natural goodness of the human whilst having a sense of civic duty. Rousseau believed that through education it would be possible to enable the child to explore and experience the world and facilitate what they were interested in, which could then contribute to society. It is possible to see echoes of Rousseau in John Dewey's (1859–1952), relatively more recent, writings on education concerning timing and readiness of learning new things. Their main point of similarity is that they believe in the child's own motivation and direct action in the educational process. We also see this in the writings of other educationalists such as Piaget (1896–1980) and Vygotsky (1896–1934) who place the child at the centre of education. Philosophers and educationalists from Socrates to Dewey and Piaget have all spoken in some way about the role of experience, curiosity and contribution to society or state as key purposes of education. It suggests that preparation for society has been considered a purpose of education for some time. In the last two centuries, education has become synonymous with school as formal sites of providing education. In many ways, education, learning and schools have become terms that are used interchangeably.

Education, Learning and Schools

Education and learning need to be distinguished because they are not necessarily one and the same thing (Biesta, 2009). According to Robinson and Aronica (2016), education refers to *programs of learning*—for learning that is unlikely to happen unless it was deliberate, for skills such as learning to read and write. Like others, (e.g. Biesta, 2015), Robinson, distinguishes between learning and education. Many things that are learned are not specifically taught through programs of learning, but are the result of natural development (e.g. walking or talking) and natural human curiosity, such as exploring the world around you. Learning refers to the process of

acquiring new skills and knowledge and is a mechanism through which education is acquired. Learning is this not a product or an end, but the process through which a person becomes educated. In this way education and learning are inter-related but distinct concepts. Schools, according to Robinson have become the primary vehicles in which to deliver organised programs of learning, programs that help equip young people with the knowledge and skills required for living in the society into which they are born. Robinson insists that schools can be any site where people come to learn and need not necessarily be a school building in what has become the traditional (and formal) sense.

The aims and purpose of education for Robinson is 'to enable students to understand the world around them and the talents within them so that they can become fulfilled individuals and active compassionate citizens' (p. xvi). This definition continues to make the connection between the individual and their talents and, how understanding the world round them can help students to connect those talents to becoming active and compassionate citizens. In doing, so they can become fulfilled individuals. Inherent in this is the interconnection between the individual and society. Nevertheless, the education system (at least in England and Wales) has come to resemble a very institutionalised form (May, 1973) and the following sections consider how these have evolved and have impacted on the individual.

The Modern Education System

Within the modern educational arena, the fusion of education, schooling and learning has led to a standardisation of education. High stakes testing and assessments have become a means to do this by purporting to be a reflection of the learner's skills, knowledge and talents. The situation has such emerged that the tests themselves have become the end. Not meeting one's own and others expectations in these assessments and standards have had an impact on young people and their ability to cope and/or prepare for their futures (Banks & Smyth, 2015). One of the purposes of these assessments in schools is to determine who is best suited to work in which industry, so it could be argued that the aim to become active citizens which fit into society remains. However, the now traditional school model has become very intertwined with the idea of a production of a workforce to feed into the economy and has become a vehicle for filtering people into particular stratums of society (as discussed in Chap. 1). This way of thinking about the purpose of education means a narrow view of what education is for (Ball, 2017) where the individual has been subsumed. This purpose has permeated the thinking of students, parents, schools, policy makers, employers, economists, politicians and the state (Biesta, 2015) where the tests are the measure of success. An outcome of this approach to education, school and learning is that young people are taught to the test and learn to the test, which has an impact on motivation, creativity and innovation (Harlen & Deakin-Crick, 2010). It means that young people have had less opportunity to deviate from the standardisation and its measurement—in effect, they struggle when something does not fit the accustomed form of learning

and are thus less resilient to change or novel situations (Deakin Crick, 2012). Whereas education thinkers (Socrates, Plato, Aristotle, Dewey, Vygotsky, Piaget, Robinson) have always placed the individual at the centre with responsibilities to state and society, somewhere along the way, we have lost the individual within this discourse. The 'standards movement'—as it has come to be labelled—has played a role in this and has had an impact on the individuals going through the education system.

A 'Measurement Culture'

The rise of measurement in education has become pronounced in the last 20 years (Biesta, 2015) and has shaped education to become removed from many of the original purposes of education. In this section, it is argued that the measurement of education has led to a formulaic form of education. This has not only negated the role of education in developing individuals who are resilient and able to navigate setback, challenge or adversity, but has actually contributed to *becoming* one of the setbacks, challenges or adversities that have to be faced by young people in education.

The global focus on measurement has led to the development of international and comparative measures of educational success through, for example the Programme for International Student Assessment (PISA) and Trends in International Mathematics and Science Study (TIMSS). National and international league tables and the 'race to the top' of these league tables has emerged as way of unproblematically raising standards in education. Many have argued (e.g. Tomlinson, 1997; Nicolaidou & Ainscow, 2005; Hess, 2005; Klemenčič & Mirazchiyski, 2018) that this approach makes assumptions about equality of opportunity in terms of race, gender, socioeconomic status and that all engaging in the 'race' have the same starting points. Despite such challenges, politicians and policy-makers alike have played a significant role in promoting this 'evidence- based discourse, including and encouraging the use of, randomised control trials in education. This has had the effect of turning teaching and learning into a 'cause and effect' and 'what works' kind of model.

This has in many ways contributed to the reducing of education to set of solutions for what works for improving standards. The field of school effectiveness and school improvement research from the 1970s has played a role in narrowing the debate into a set of (testable) variables (Biesta, 2009), despite their original noble intention of improving the quality of education. However, this measurement agenda has led to a profound effect not only on education policies but also teacher activity and their own resilience within schools (Altrichter & Kemethofer, 2015). In essence, the measurement outcomes have become the overall aim of education and the purpose of schools. Pupils are merely producers of the data that is to be measured. Whilst this has focused the debate of quality education to be based on facts rather than vague concepts (Biesta, 2015) and it has improved education standards (Altrichter & Kemethofer, 2015), it has also come to dominate, rather than lend support to the argument. In essence, education as a means to develop the individual has diminished and actually become an issue itself. Not 'measuring up' in such a 'measurement culture' has

played a role in contributing to contributed to some of the mental health and well-being issues that are now emerging in recent literature and which is discussed in a later section of this chapter.

The measurement culture has also led to what Biesta (2009) termed 'learnification' or the development of a language of learning that is focused solely on process. This has since shaped debate and discourse around education and contributed to reducing it to 'learning as process' and measures that assess this process. The debate about what education is actually for, or the purpose, has become lost in learnification. Biesta argues that learning is an individualistic process, necessary for education to happen. Education, though, is about a relationship between the individual and the world around them. The new language of learning (learnification) has prevented the asking of broader questions and instead has focused debate on the processes of learning. For example, we speak about learners not pupils, learning not education.

Biesta (2009) suggests a framework for asking questions about the purpose of education, which incorporates broader elements in order to extend this debate back out. These are *qualification, socialisation* and *subjectification.* Qualification refers to skills and knowledge that people need to perform and contribute to society and one of the main reasons for having a formal education system. Socialisation refers to becoming a citizen of society through education, through the development of shared norms and values. Subjectification is the opposite of socialisation and refers to the gaining of independence and autonomy or, the development of the individual. These purposes of education do not seem entirely distinct to the purposes of education outlined by the earliest of philosophers discussed earlier in this Chapter. However, the focus on measurement and standards has meant that the subjectification aspect of education has been side-lined, in favour or a more 'formulaic nature of education'. This has had consequences for the young people and teachers in the system.

Resilience *for* Education

We are currently situated within a time when young people in the UK (and many other Western societies) are the least happy (The Good Childhood Report, 2018), young people and children's mental health and well-being is at an all-time low (Sadler et al., 2018, NHS Digital, 2018). The causes are copious and while neither the scope nor purpose of this chapter is to discuss them, mentioning a few of the causes (in no particular order) is worthwhile in order to understand the current context within which children and young people are situated. These include the pressures of continual assessment and exams (Putwain, 2009; Banks & Smyth, 2015), the impact of social media on mental health (Andreassen et al., 2016), social isolation (Weinstein et al., 2015) and loneliness (Enez Darcin et al., 2016), insecurity in the school-to-work transition (Saks, 2018), family worries (Yap, Pilkington, Ryan, & Jorm, 2014) or the financial pressures of higher education (Harrison, Chudry, Waller, & Hatt, 2015). This suggests a there is a mismatch between what is happening in schools and the preparing of individuals for a changing society.

'Formulaic Nature of Education'

A 'formulaic nature of education', driven by the need to reach the top of league tables, improve standards, as shown by measurement instruments, all encased within a context of accountability and competition in the education arena (Biesta, 2015; Rustique-Forrester, 2017) has meant that education (at least in the UK) has become linear, fixed and unmovable (Cullingford & Oliver, 2017). The impact on and consequences for pupils and children who deviate from it (deliberately or other) are pronounced. This impact comes in a variety of forms, including on the mental health and well-being of young people in the UK or deviation (in the form of absenteeism, failing exams, delinquency, disengagement, not taking employment, education or training [NEETs]) is not an option as there are fixed ways for success. That success is measured in terms of achieving learning outcomes, exam results or a well-paid job (Riley & Nuttall, 2017). This linearity and a risk averse culture has left children and young people fearful of uncertainty and unprepared for disruption (see Chap. 12). Those who deviate from it risk marginalisation (Cornish, 2017). Not allowing children to fail not only thwarts the development of resilience mechanisms to cope with failure, but also means that at the school level, head teachers take measures to ensure that their 'data' is not affected by deviance (or failure). For example, schools may resort to suspensions or expulsion of students who do not fit the behaviour model of their school in a sort of 'zero-tolerance' approach (Rustique-Forrester, 2017; Monahan, VanDerhei, Bechtold, & Cauffman, 2014)—a practice recently termed 'off-rolling' (Hughes, 2018; Long & Danechi, 2019). It is also not unusual for schools to 'perform' for Office for Standards in Education (OFSTED) inspections (Perryman, Maguire, Braun, & Ball, 2018) or for disruptive pupils to be coaxed into good behaviour in preparation for an imminent OFSTED visit (Ouston, Earley & Fidler, 2017).

This suggests that pupils who do not fit the model may be at risk of being marginalised in society (Simmons, Thompson, & Russell, 2014), which can have other longer-term negative outcomes (Rodwell et al., 2018). The ones who do become part of the system can succeed whilst in it because they have learned how to do so, but can ultimately be fragile, vulnerable and dependent when outside the system without the 'safety-net' of the measures they are used to (Deakin Crick et al, 2015). In this way, education, schooling and learning with this measurement and assessment culture is not preparing children with the autonomy and agency needed for responding to the change and flux that characterises 21st Century living (Ryan & Deci, 2016) (see Chap. 12). Instead, we have some unintended consequences of high stakes testing (Jones, 2007) which has impacted on the well-being of young people (Bonell et al., 2014). These include the risk of people who are not resilient to change, unable to respond positively and adapt to challenge and/or adversity or turn it into an opportunity. By creating a very formulaic education system, we have unwittingly created individuals who only know who to live in a structured and 'formulaic' way (Jones, 2007; Berliner, 2011).

However, the evidence suggests the world young people are entering is indeed the complete opposite. We are hurtling towards a world in which uncertainty, innovation and novel scenarios are the norm (Barnett, 2012; Scharmer, 2009). Where transferable skills are essential, where problem solving and solution focused attributes are not only desirable, but necessary. Education has to return to some of its original purposes, which is to enable individuals to recognise their own strengths and abilities to prepare them to contribute to society and achieve their potential. But this is not happening as we see with the alarming declines in mental health and well-being in young people in the UK. This all suggests limited resilience to the challenges and adversities that young people may be facing in their lives.

It would be inappropriate to blame all this on the assessments, competition, standards and accountability in education. However, combine this with the sheer speed of technological and societal changes, which have included an explosion in social media and an information highway where we are both consumers and co-creators, all play in presenting challenges to individuals. However, what we can say is that education has not adequately presented the space and opportunity to prepare for or respond to these. Education has been one of the slowest sites for responding to the challenges and opportunities that such advances bring (Herold, 2015), for example, education and schools are still only using technology for its use as tools to do what they have done before. What has yet to happen is for education to utilise technology to reach new ways of knowing and new knowledge that could only be known or facilitated through technology (e.g. see the work of Siemens (2017) on the theory of connectivism) (see Chap. 12). Thus, whilst education may be part of the problem, it is also represents part of the solution. Developing resilience to persevere and succeed despite the challenges is possible through education. However, this requires a different approach.

Resilience *Through* Education

This chapter has taken a very quick tour through historical philosophical discussions on the purpose of education to the contemporary context of education as a highly sophisticated, structured and outcomes based global 'education industry' (Verger, Lubienski, & Steiner-Khamsi, 2016) to make the argument that the education system itself can be an adverse environment. Whilst much of the resilience literature has referred to how an individual recovers from severe or extreme adversity (see Chap. 2), the literature is also beginning to talk about adjustment and adaptability to everyday setbacks and challenges (e.g. Gillham et al., 2013). This could be in the education arena (ahmed Shafi et al., 2018) or in terms of general well-being (CASEL, 2003; Luthar et al., 2000). These fields have dedicated and separate literature bases, but is relevant because going through education would be considered an 'everyday activity' and being able to adjust and adapt would require some resilience.

We can discuss this idea in the context of Biesta's framework for education and in particular how the 'learnification' (Biesta, 2009) of education has in some ways

distorted and deviated the debate of the purpose of education into the process(es) of learning. This is because such discourse has contributed to the everyday education environment. Reframing the debate within the ideas of qualification, socialisation and subjectification offers the ability to retain the current qualification and socialisation driven agenda, but critique how the notion of subjectification has been side-lined. The fixation with qualification i.e. the obtaining of knowledge and skills has become the business of education. Further, the socialisation aspect that assimilates the individual into the norms and values of society so that they become an active member have also dominated in the sense that the attainment driven agenda narrows education into the measurable. The opportunity, space and support to develop the resilience in order to navigate the challenges of the education system or beyond has not been an explicit focus of education.

As this is a book on resilience, we posit that developing resilient individuals is one way in which to prepare for a society and world that is in continual flux. It is a way in which subjectification can be realised. As the Dynamic Interactive Model of Resilience (DIMoR) (ahmed Shafi et al., 2020) in Chap. 2 indicates, the individual is a system within a system, itself consisting of a range of other interacting systems all of which are moving in a range of directions. This dynamic representation of the individual system within wider systems (communities and society) moving and interacting with all the other individual systems makes for a complex lived experience. This suggests that education needs to prepare people for agentic movement through this complexity whereas philosophers and educationalists claim that education should develop children as individuals so that they can contribute to society in ways that are fulfilling. In some ways this can be used as an explanation for the 'challenges' that young people are facing with the growth of mental health issues, a hindrance in autonomy of thinking (Ryan & Deci, 2016) as well as to the challenges of democracy. As Noddings (2013) argues education is essential to an effective democracy. These issues could all be said to be symptomatic of the lack of subjectification in the education system where individuals are not encouraged in the principles of subjectification and so are not able to emancipate themselves by responding to challenges or effecting change. We consequently see a focus on quantification as if this is the ultimate aim of education and instead ignore the composite dimensions, which constitute the purpose of education.

It has resulted in a generation of young people less able to cope with and respond to the adversities of complex, modern living in multiple and dynamic systems (Dekker, 2016). This is likely to have an impact on society in which the individuals must live and contribute. As discussed in Chap. 3, resilient individuals make resilient communities, which make resilient societies. If we are to have sustainable and resilient societies, then it needs to be addressed at an individual level and through education in the earlier parts of an individual's life. It is well documented in the resilience literature that schools are a key protective factor, thus, the importance of schools in developing resilience needs more specific attention.

Resilience for Learning

It should also be noted how research on resilience in education is not only good for preparation for life, but also for the process of learning itself. It has been shown that there is an optimum level of resilience and is indeed a scale, where at one end sits the risk of vulnerability and dependence and at the other the risk of being rigid and brittle (Deakin Crick et al., 2015). For learning it is vital that the individual is situated somewhere between these two pole ends where there is an openness to learning. Being open to learning means a sense of vulnerability and dependence on perhaps a mentor, but it also means a level of being able to respect one's existing knowledge base. Hence, learning can only occur there is a healthy balance of vulnerability, staidness and openness. Resilient qualities can enable the individual to manage these (often) competing demands. It is for this reason that the development of resilient qualities need to be nurtured in the educational arena as part of individual development which will support the other purposes of education as discussed in this Chapter. Learning opportunities within a supportive educational context can present the amount of risk needed in order for learning to occur and it is this what makes school a protective factor.

Educational settings have been making efforts to develop resilience within pupils. For example, the use of the 'growth mind-set' concept (Dweck, 2010; Yeager & Dweck, 2012) has been used to help students recognise that failing is part of learning. Also, work by Morrison & Allen (2007) which outlined how resilience can be promoted in a variety of ways within the school context, taking account of individual and family factors. There are also a range of programs focused on developing social and emotional competences (e.g. CASEL, 2003, 2007; SEAL programs). However, many of these programs, whilst recognising that a systems approach is desirable, do not take account of the complexity of the dynamic interactions between the individual and all the other systems as identified in the DIMoR.

Resilience—A 'Buzz Word'?

The use of the term 'resilience' across so many disciplines in a multitude of ways suggests that it could be currently considered to have 'buzzword' status (see Brown, 2015). Its flexibility and malleability has invited critics to suggest a conceptual haziness and a temporary fashionableness, which has lent support to those who argue that the word has come to mean everything, but nothing. This is problematic because it means that the actual meaning of resilience, and what it entails, is itself at risk of becoming diluted and lost due to its perceived 'in vogue' status. We therefore propose that resilience in this book is used to refer to resilient qualities, as outlined in Chap. 2, and play an important function in how an individual navigates and positively adapts to the adversity and challenges in life. However, resilience is also by no means a

silver bullet—it cannot solve problems but it can help provide the environment for solutions to prosper.

There are those who advocate that if resilience is becoming the ultimate way in which to deal with educational challenges as those mentioned earlier in this Chapter, is it not more appropriate to reconsider the challenges and whether that is where our efforts for change and adaptability should lie (Webster & Rivers, 2018)? In many ways, it is difficult to challenge this view, especially when considered against the discussions in Chap. 1, however whilst changing the education priorities and a revisiting of its purpose is necessary, it would be naïve to believe that all would then be resolved. For example, the issues which are beyond the educational arena will still be there, such as competition for jobs, resources, sustainability, technology. Thus, resilience in education is not just to 'survive' the education system, but more broadly about adapting positively to the challenges or adversity and be in apposition to change them. Again, it could be argued that the neoliberal agenda is driving such societal challenges and that is what needs to change rather than developing resilience at an individual level (Webster & Rivers, 2018). This is not a view this Chapter disagrees with, however in order to effect change in society we need resilient individuals, able to respond and adapt positively to the fast paces of change. Resilient individuals are needed even to change the systems causing the adversities.

Developing Resilience: An Integrated Systems Model for Education

The above section discussed why education is a good place to develop resilience and the DIMoR model put forward by ahmed Shafi et al. (2020) is useful in understanding how this might work in practice. This is particularly given the dynamic, interactive and complex systems that schools are, and the dynamic interactive systems of communities that schools themselves are situated mean. A model which recognises this is essential if resilience is to be developed in the school environment. The DIMoR offers a new way of looking at (educational) systems and illuminates the elements which may present as a hindrance or an opportunity.

As pointed out throughout this chapter, the resilience literature has long cited school as an educational setting to be a protective factor for resilience (e.g. Gilligan, 2000; Luthar, Cicchetti, & Becker, 2000). Schools can engender a sense of belonging (Masten, 2001; Garmezy, 1993), enable the development of positive relationships and provide the stability, which can mitigate the effects of other risk factors (Zimmerman & Arunkumar, 1994). Even the literature on resilience following major natural disasters or conflicts have shown the importance of setting up schools and educational settings as a means of recovery (Kia-Keating & Ellis, 2007). This is because they present the opportunity for a sense of stability or normality, which is essential following adversity. However, the literature has yet to fully explore the potential role of education in *developing* resilience that goes beyond discrete interventions.

Schools can be more than just a protective factor and need to play a more proactive role in developing resilient qualities for general mental health and well-being.

Drawing on the DIMoR model, it is important to consider that whilst education has a role to play in developing resilience, this is by no means a simplistic feat. One of the reasons is the complex nature of the child as an individual system and how the educational setting too, is a complex system with many other actors (systems) within it. The educational setting is itself situated within a wider complex societal system. As the ahmed Shafi et al's. (2020) DIMoR model suggests, all these systems interact in a dynamic and complex way. Recognising this is an essential part of developing resilience in educational settings because there is a danger that educational settings may 'teach resilience' in a seemingly unproblematic way and assume that this will develop resilience (Ager & Metzler, 2017) (see Chap. 5). However, given that educational settings are such a complex system it would be essential to develop a resilience culture that permeates throughout the systems, not just in a didactic form of teaching. This would involve a whole school system which in itself is not a new idea (see e.g. Gillham et al., 2013; Ager, 2013) but what is new is a recognition of the complexity of educational settings and the wider systems they sit within in order for any initiatives to be successful and more importantly, sustainable. The DIMoR Fig. 4.1 represents a school system which takes account of the individual systems within it. The full rationale of how this model was built is described in Chap. 2. However, in summary, ahmed Shafi et al's. (2020) DIMoR model combines the important contributions of Daniel, Wassell, & Gilligan (1999) risk/protective-vulnerability/resilience model,

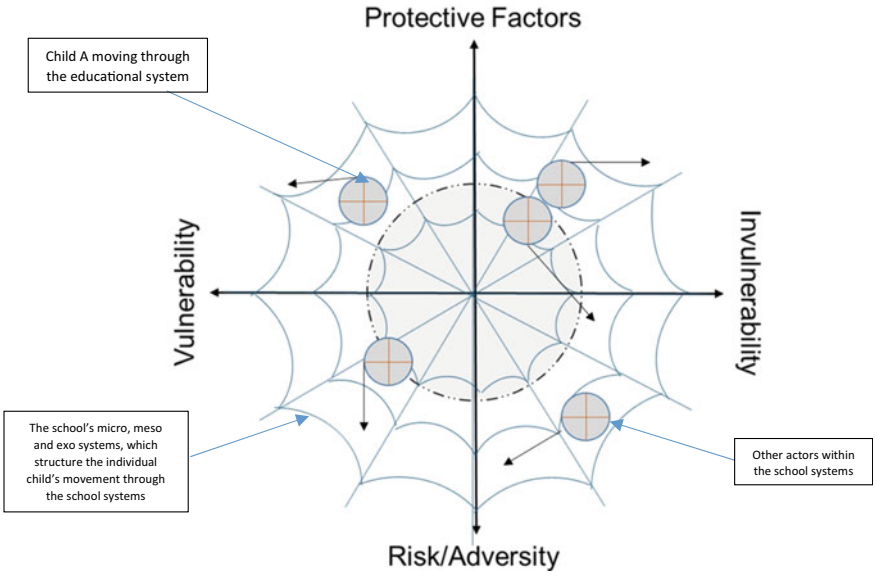

Fig. 4.1 The DIMoR as applied to a school setting

Bronfenbrenner (1979) bioecological model of human development, Ungar, Ghazinour, & Richter (2013) social-ecological model of resilience and Downes (2017) systems models of resilience present a dynamic and interactive model of resilience.

Child A represents an individual child navigating the educational system, interacting with other actors (children, teachers etc) within that system. Child A's experiences are likely to be structured and shaped by the school's systems, which include internal factors, such as the school rules, class compositions, teachers, the physical space as well as external factors, such as wider policy, that impacts on what happens within the school, the local community, other schools, its physical location, parents etc. These micro, meso and macrosystems of the school itself will shape the individual child's experience, including that of resilience development. Understanding how an individual is situated within such dynamic and interactive systems emphasises the importance of ensuring that any resilience development permeates throughout the educational system. It would highlight how developing resilience only within the classroom setting would quickly get lost within the range of dynamic interactions inherent in such systems. The DIMoR model would therefore support the notion of a system-wide cultural approach to developing resilience for it to be effective.

The role of education in developing resilience has overlaps with social and emotional learning (CASEL, 2003) as well as the development of 'positive character' (Elias et al., 2015) and other 'non-cognitive skills', also known as 'soft skills' (Gutman and Schoon, 2012). However, resilience extends these because it is concerned with enabling the individual to recover following adversity, but also enables the individual to learn from the adversity and become better prepared for the next. In this way, social and emotional learning, positive character and non-cognitive skills all contribute towards developing a resilient individual that can navigate the challenges, adversities and uncertainties of life in school and then beyond. However, these can only be developed whilst adopting a system-wide approach. Gillham et al. (2013) posit two main approaches to resilience, firstly, through explicit teaching of skills, curricula and/or coaching. Secondly, through promoting a resilient culture in schools through policies, school goals and aspirations, the development of support networks and increased collaborations and connections with parents and wider community organisations. There is a broad literature base which indicates that initiatives which seek to promote resilience in schools has positive effects on students' mental health and well-being as well as positive effects on academic performance (Christenson & Havsy, 2004). For example, students are more likely to be engaged and motivated at school which in turn promotes better school outcomes (Muenks, Yang, & Wigfield, 2017). People who feel equipped to deal with challenges and uncertainties and feel supported are more likely to take risks in learning and more likely to be creative and innovative in seeking solutions to problems (Moore & Westley, 2011). Nodding (2018) outlines how educational questions over time have both remained the same but also changed based on the society and time they are asked. Nodding, like Biesta (2015) argues that it is necessary to challenge the use of language and discourse in order to stimulate new ways of thinking about the same questions to illuminate new possibilities. Developing resilient individuals fosters the ability to take risks in challenging such notions of language and discourse.

We propose that taking a whole complex systems approach will have greater gains for developing individual resilience, which then develops school resilience, translating into community resilience and so on. In essence, resilience begets resilience. If education can take a greater and more deliberate role in developing resilient pupils, this is likely to have a long lasting effect on them throughout life (Gillham et al., 2013). Given that the individual is a dynamic, interactive system, the opportunities to interact with other systems is inherent and therefore work done in the educational arena is likely to filter into other community networks.

Conclusion

This chapter has explored how the purpose of education has, in recent decades, become very concerned with a narrow focus on a 'formulaic form of education' that is designed to measure learning outcomes and produce good results from students so that they may enter the workforce. However, this has had an impact on students, teachers and the nature of education. We propose that education needs to refocus itself to some of the earliest discussions on the purpose of education, which refer to fulfilled individuals who can contribute to and respond to the needs of society. Given the current fast paced change of modern society combined with education-specific issues, this has had an impact on young people's mental health and well-being which can have profound challenges for societies facing yet further flux, challenge and uncertainty. We believe education should play a key role in developing resilience both within individuals and, within the dynamic interactive systems of which they are a part. The ahmed Shafi et al. (2020) DIMoR has provided a useful framework through which to assess the range of reciprocal and interacting systems which could enable practitioners and policy makers to consider a much wider range of factors that affect the shaping of resilience for individuals and organisations. In so doing, education can help develop resilient individuals preparing them for addressing the challenges of life. Developing resilient individuals supports the development of resilient communities prepared for innovation and creativity, ready to deal with ever-new challenges and uncertainties that we cannot 'qualify' them for in advance. Resilience can help them not only weather such a future but shape such a future.

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Chapter 5
'Teaching' Resilience: Systems, Pedagogies and Programmes

Tristan Middleton and Richard Millican

Abstract Beginning from the premise that educational settings are well placed to impact positively on the resilience of children and young people, this chapter addresses some of the key issues for consideration when attempting to promote resilience through educational settings using the DIMoR (ahmed Shafi et al. in Emotional and Behavioural Difficulties 25, 2020) as a lens. The implications of educational settings being complex systems which interact with individuals, as systems themselves is explored. The discussion then continues to address the implications for pedagogical approaches before moving on to critique the use of specific programmes designed to promote learner resilience. In conclusion some recommendations for education for resilience are proposed.

Introduction

This chapter uses the DIMoR as a starting point for understanding the concept of resilience. The DIMoR identifies resilience as a process and not fixed position (ahmed Shafi et al., 2020). This definition of resilience reflects the way in which a system navigates a direction of travel in the face of risk, protective factors, vulnerabilities and invulnerabilities within its encounters with other systems. The factors of Person, Place, Context and Time (PPCT) (Bronfenbrenner & Morris, 2007) influence this navigation within the framework of the perception and expectations of the system. The individual is identified as a system itself (Clarke & Crossland, 1985), co-existing alongside and within other systems, which may be, for example, individuals, organisations, cultures and temporal systems. As systems interact, disruption occurs as expectations are challenged. Where these challenges are significant for the system,

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the ability to navigate towards a desired outcome is the area where resilience can support the resolution of the disruption.

Through the use of the DIMoR (ahmed Shafi et al., 2020) the authors will identify three levels through which the development of resilience in education settings can be analysed and will consider the difficulties presented in taking a programme-based approach to the teaching of resilience. It will conclude by proposing some ways forward for education settings that wish to support the development of resilience for their learners.

Educational settings such as schools, further education and higher education settings, are highly developed institutions, influenced by national and local policies and operating within a context of active directorships and leadership groups. This situation of policy and leadership, where there is a focus on the improvement of schools, provides a context of educational institutions where there is regular dialogue around how best to adapt and develop the institutions in order to prepare children and young people for a role in society (Meyer, 2007, p. 115). As such, educational institutions can be identified as being ideally positioned as places to work to support and develop attributes of children and young people (Eccles & Roeser, 2012; Noble & McGrath, 2018), and in particular upon the areas of health, wellbeing and resilience (Banerjee, McLaughlin, Cotney, Roberts, & Peereboom, 2016). Where a school focus is taken, we can reflect that for the majority of children and young people a significant period of time is spent in school and schools present a system, which would be described by Bronfenbrenner (1979) as a meso-system, where there is an ability to consciously implement changes to the environment with the purpose of promoting resilience (Henderson & Milstein, 2003). Furthermore, the location of schools, situated between the community and families, provides the opportunity for the development of "family-school-community partnerships" (Wang, Haertel & Walberg, 1997, p. 134) to address co-occurring risks to resilience which exist across these interacting systems. A number of more recent reports and studies, linked to challenges faced by education systems and the children and young people within these systems, include recommendations about linking communities, families and schools. A recent English example is the Timpson Review of School Exclusions (Timpson, 2019) which includes a recommendation for the development of multi-disciplinary teams focussed on vulnerable children and young people, built around schools. The majority of English Local Authorities publish guidance on Early Help and Team Around the Family approaches to support the needs of vulnerable children and young people.

Many educational practitioners may respond with the view that highlighting the collaborative nature of schools, families and communities expresses an ideal view and that, despite efforts to connect more widely, schools often work as isolated oases in the interests of learners (Roeser, Midgley & Urdan, 1996). Within this context it is possible to view the school as a lifeline for the promotion of resilience in children and young people, in the face of challenges in their families and communities such as Adverse Childhood Experiences (ACE) (Felitti et al., 1998), socio-economic challenges and cultural differences, as well as the challenges presented by encountering new learning situations.

Chapter 4 has given the underpinning rationale of the appropriateness of addressing resilience within educational settings and how the DIMoR (ahmed Shafi et al., 2020) can facilitate thinking about this. This leads the authors to consider how educational settings can best address resilience. Through consideration of educational settings as systems, this chapter proposes that the development of resilience and teaching resiliency should be considered on 3 different levels within educational contexts.

At one level, the educational systems and structures, arrangements and expectations need to be considered. The impact of these systemic factors on group and individual resilience should be considered alongside the opportunities available to adapt them according to the outcome the changes may have.

The second level is that of the pedagogy which guides practice, both at an institutional and individual level. The authors will explore the implications for pedagogy when using the DIMoR (ahmed Shafi et al., 2020) as a lens through which to consider the development of resilience in educational settings.

The third level is based on the understanding that, for education practitioners, operationalising an approach to develop resilience is often considered through the use of explicit programmes. The authors will consider the use of published programmes as a tool to develop learner resilience.

A Systems Perspective

Educational institutions are systems which are, to a greater or lesser extent, purposefully constructed, according to a particular perspective, around the purpose and role of education within society. When considering the role of schools in promoting resilience through the DIMoR, taking a systems perspective (ahmed Shafi et al., 2020) prompts some key issues. These include, how the system interacts with the learners as groups and individuals, how it allows navigation, engenders expectations, provides and allows for protective and risk factors and the impact upon resilience. Masten (2015) points out that whilst schools have the potential to act as positive influencers upon the protective resilience factors, they can also have a negative impact and increase risk factors, because, as Masten suggests, a number are, "poorly suited to the needs of their students" (p. 222). It is therefore important to consider how educational institutions, including schools, further education and higher education settings, can act as systems which effectively support the development of the resilience of their learners.

If we understand that an individual's resilience is a relational concept between the individual's expectation and their experience when they encounter other systems, it can then be possible to have a positive impact on resilience by altering the nature of the systems they encounter. Therefore, by changing aspects of the school system, we can impact on this dynamic relationship (Lerner et al., 2013*)* and the resilience factors which emerge. A key component that does influence educational institutions are the leaders. Leadership can be considered as a significant point of interface between the

individual learner and the educations system, in that leaders make positive decisions and take actions to alter the education system with the explicit intention of impacting on the learners. In a literature review conducted by Leithwood, Louis, Anderson, and Wahlstrom (2004) the significance of leadership actions upon learning was identified as being highly significant and only second to classroom instruction.

However, another perspective identifies that systems may not react in a linear, cause and effect, way and that it is not possible to take a reductionist view of the way in which school systems evolve. In other words, that it may not be possible to design a system which promotes resilience through specific actions or which can be successful in creating a specified chosen impact. Instead, it can be suggested that systems are self-organising organisms (Kelly & Allison, 1999), which change as a result of their engagement and interaction with other systems. This analysis of systems, aligned to complexity theory (Morrison, 2002) makes it more challenging to identify successful approaches or actions which can be taken by school leaders. These two perspectives are, however, not necessarily contradictory. Whether we view the leader in a school as a guiding decision-maker, able to implement an approach with specific aims or the leader as one system which is interacting within the school system in an organic and complex way, both of these perspectives acknowledge the impact of the leader on the school system. The difference highlighted by these perspectives accentuates that within both, there is a significant role for the interacting systems to play. The self-perpetuating nature, or autopoiesis (Wheatley, 1992, p. 20), character of protective resilience factors means that if the relational interactions can happen within the context of protective resilient factors, the impact on the individual is likely to be the development of more protective resilient factors. The extent to which the presence of the protective resilient factors in the educational system will impact on the individual who interacts with that system is open to debate. The argument of inter-subjectivity (Hart, Blincow, & Thomas, 2008, p. 132) highlights the substantial range of contextual factors with which the meeting systems will also interact and therefore the significance of each interaction may be diluted, or indeed enhanced. For example, a pupil in a school in one week may interact with 15–20 teachers, over 100 students and many more individuals online, however if each individual is also interacting with similar numbers, then the inter-subjective influence can be extremely large. In addition to this, the individual idiosyncratic characteristics of each learner and the dynamic nature of the influences of PPCT (Bronfenbrenner & Morris, 2007) also mean that design of educational institutions should not be made with the expectation of particular levels of impact upon learner resilience. What this systems perspective does however imply, is that it is desirable within the school system to have a balance of protective and risk factors which is weighted in favour of the protective. This will act as an enabling basis to provide the child or young person with the opportunity to learn the necessary skills for resilience (Cohen, 2013) through experiencing conflict or adversity whilst maintaining a direction of travel. This perspective leads us to consider the second perspective to understand the pedagogical approaches that might be best suited to facilitate and engender protective resilience factors.

A Pedagogical Perspective

The DIMoR presents resilience as a dynamic and multi-levelled emergent quality (ahmed Shafi et al., 2020), and as such there are clear implications for pedagogy. Resilience, as a form of learning, is seen as existing in the context of the interaction of systems, where there is a co-evolution as a result of these interactions (Morrison, 2008, pp. 26–27). The importance of resilience as a factor in learning, for which the case has been made in previous chapters, raises significant questions with regards to the employment of a didactic pedagogy based upon the transmission of a fixed body of knowledge or that of a learner moving towards a single normative outcome (see Chap. 4). Instead, when resilience is the focus, as the resource which enables children or young people to be ready to interact with a rapidly changing world, which their teachers are unable to predict (Claxton, 2002), particular pedagogical theories and approaches are implied. Pedagogies which empower children and young people to make informed decisions are needed. Higher order thinking skills such as applying, including interpretation and implementations, analysing, including questioning, comparing and contrasting, and evaluating, including critiquing, appraising and judging (Bloom et al., 1956), are needed to enable learners to develop the ability to navigate change, uncertainty, surprise and adversity. These are approaches which recognise the importance of contextual factors including environment, relationships, and individual character and perceptions. The pedagogical approaches of constructivism (Piaget, Vygotsky), discovery learning (Bruner) and experiential learning (Kolb) are approaches which enable this development. These pedagogical approaches align with the DIMoR in that the agentic interaction of the learner with other systems (individuals, groups and wider systems) are recognised as significant factors in emergent learning outcomes (ahmed Shafi et al., 2020). The fact that the DIMoR places significance on the individual, as a system, navigating their way through learning, with the autonomy to make choices about the direction of their learning, yet being influenced by other systems they encounter, supports the argument that Early Years pedagogical approaches need to be expanded to learners of a much wider age range. The Early Years learning environment, with a person-centred approach, positions the pedagogue as a facilitator of learning, scaffolding learning through their interactions and resourcing. It uses language aligned with coaching approaches to support the child to explore the world and other people, around them. The importance of pedagogies which support person centred and learner-led activities is also encompassed in literature about play. This literature recognises play, an open and outcome-free activity, as a primary learning behaviour which serves to develop resilience (Lester & Russell, 2008). Such pedagogical principles are aligned with the DIMoR (ahmed Shafi et al., 2020) and could be effectively integrated with systems, interventions and approaches which are in school settings (Banerjee et al., 2016) and beyond. The consideration of Early Years pedagogies for developing residence in education settings will be further discussed in Chap. 6.

Where a particular pedagogical approach is taken there are consequent implications for the taught curriculum. In the case of using the DIMoR (ahmed Shafi et al., 2020) through which to frame the development of resilience in learners, we have argued that there are implications of socially situated and person-centred pedagogies. This pedagogical approach challenges approaches to curricula which are focused on the didactic transmission of desirable knowledge. Instead it implies a curriculum which may be skills-based and where learning outcomes are wide and adaptable according to context and to the individual learner. Key skills such as mastering the contextual languages to understand and communicate will be important, as will the development of thinking skills. The use of the DIMoR (ahmed Shafi et al., 2020) identifies that resilience is needed to help the learner navigate through the consequences of the individual interacting with another system and their expectations being challenged. In order for an individual to understand and have some ability to manage expectations the curriculum will also need to have psychological elements which promote attributes of self-understanding and self-awareness. Metacognition is described by Grigg and Lewis (2019, p. 16) as, "the beliefs and knowledge individuals hold about their cognitive processes and their ability to manage these processes". These metacognitive skills are also a desirable aspect of the curriculum to promote the learner's ability to be adaptive. The pedagogical perspective therefore implies a curriculum aimed at developing the individual and their ability to understand and adapt to and/or change the environment they encounter. Claxton (2018) describes the outcomes of such a pedagogy as creating epistemic character. What is far less important or relevant within a curriculum where the pedagogy is focused on developing resilience, as defined by the DIMoR (ahmed Shafi et al., 2020), is the acquisition of knowledge and/or facts and the instrumental approach of ensuring these things are learnt and tested.

If practitioners are to teach for resilience, they may be likely to experience a clash of pedagogies. Where practitioners focus on resilience as an important factor in education they will be moved to consider the ways in which they teach. As has been argued above, the DIMoR (ahmed Shafi et al., 2020) implies a pedagogy which is context related and focussed on individual needs (Masten, 2015). The pedagogical approaches for developing resilience are likely to conflict with the dominant discourse and values system guiding policy in UK education (see Chap. 1). This has been described as being underpinned by a 'commodification of education' (Johnston and Bradford, 2019, p. 19), where competition and hierarchical structures are embodied (Tomlinson, 2017). Some consider that this managerial approach of audit and examination is reducing the opportunity for teachers to practice pedagogy (Allen & Goddard, 2017) through imposing regulation and unmanageable workload by deprofessionalising teachers through a discourse of deficit (Ball, 2016). The emerging picture is one of a highly regulated education system with a focus on didactic teaching approaches. This context presents a significant challenge for the teacher who seeks to teach for resilience through a flexible and socially constructed pedagogy.

Webster and Rivers (2018) challenge the validity of aiming to teach or develop resilience in learners, putting forward the view that this approach is a way of papering over the negative impacts of an education system which is not appropriate for the

learners involved. Whilst there may well be merit in developing a more user-friendly system, in which the learner is empowered to have control over the way in which their educational experience promotes positive changes in their lives (Freire, 1996), it is unrealistic to aim to eliminate all adversity in systems. Rutter (2013) also suggests that a manageable level of challenge and stress may foster aspects of resilience. Within the DIMoR, when two systems meet, the encounter may change the direction of both systems, however this is not always perceived as adversity and the outcomes and adaptations may be positive. If educational environments are changed in such a way that learners are shielded or protected from risk (Wang et al., 1997) or protective factors are imposed, as a way of promoting "wellness" and "success" (Doll, 2013, p. 400), this may result in learners becoming scared of risk or adversity as a result of limited experience. Furthermore, through the reduction of risk, choice for learners can be limited and diversity restricted. Rather than a hegemonic aim of reducing difference in pursuit of more user-friendly educational settings, we may need to aim for more diversity within our institutions and focus on enabling learners to make their own informed choices in consideration of their particular contexts, within a nurturing and enabling environment (Masten & Barnes, 2018).

A Programme-Based Perspective

The third level of thinking which needs to be considered is that of how educators can operationalise teaching for resilience. If both a systemic approach and a particular pedagogic approach is taken, there is still the need to plan for and lead educational experiences for the learners. Decisions need to be made around curriculum design, programmes and interventions and how these may best develop resilient children and young people. In short, this is the question; 'what is the best way to teach for resilience?'.

In considering the potential for a curriculum for resilience, questions relating to the existence of core skills relating to resilience are raised, as well as whether these skills may be formed into a taxonomy. Furthermore, if there are core skills, whether these skills are able to be taught or learnt, or whether the complexity of systems encountering each other means that the development of resilience is not suited to a focused, curriculum-led or programmed approach.

There are a number of interventions and approaches to teaching children and young people skills associated with resilience. Banerjee et al. (2016) point out that schools often link health and wellbeing to resilience, and as such, wide ranging approaches may be deemed by schools to be developing resilience. The "Resilience Framework" (www.boingboing.org.uk), which is based upon Resilient Therapy (Hart et al., 2008) offers a focused approach to developing resilience, providing educators with outcomes and approaches. Another example is "*The Resilient Classroom: A Resource Pack for Tutor Groups and Pastoral School Staff*" (Taylor & Hart, 2016), which offers a range of short activities for educators in schools to use to promote resilience.

It is important to acknowledge the positive impact that such programmes can have for individual learners and that there is some research evidence to support the positive outcomes of such programmes (Hart et al. 2016; Noble & McGrath, 2018), although the tension around this evidence is discussed later in this chapter. However, whilst approaches such as these offer schools a clear approach to developing learner resilience, with outcomes and approaches which can fit comfortably into lesson plan formats, the use of such programmes can be flawed when adapted or misunderstood by practitioners. The programme-based approach could be considered as taking a reductionist approach to developing resilience. There is a risk that if resilience is presented as a list of key attributes and skills, then schools may be tempted to consider that they can teach those skills and then, in a reductionist way, believe that they have addressed resilience in their curriculum. They may also be at risk of over emphasising particular attributes or skills and pushing learners to be 'over-resilient' by way of displaying particular attributes or skills, whilst not actually being able to employ them in context. This possibility of the over-teaching of isolated skills or particular strategies relating to resilience could also be considered to lead to the negation or reduction of emotions. For example, practitioners could use the "Resilience Framework" (www.boingboing.org.uk) as a checklist of skills, rather than a set of ideas and prompts. In this situation, educators might attempt to develop an inflated sense of hope, braveness or responsibilities, leading to negative impact on the learner. This approach of focusing on particular attributes or skills could also lead to a false sense of safety on the part of the children and young people. If they perceive that they have been provided with the protective factors necessary to make them resilient, it is possible that they may become risk-unaware, believing that they are resilient, whilst actually not having the understanding or skills to navigate the context. Therefore, rather than being able to adapt to the particular context and have a level of agency through which to be able to make decisions about appropriate adaptations to situations, they may be limited to making choices from the skills they have been taught. It is also possible that a perception of being resilient may prompt risk-seeking behaviours, as a result of a false sense of safety, and compromise the actual safety of children or young people.

The operationalisation of the promotion of resilience through teaching skills and attributes is founded upon the conceptualisation of resilience as a set of internal and individualised factors. This approach risks neglecting the importance of contextual factors and complex relationships and development, in a similar way that considering someone to be healthy and unlikely to need medical services neglects a range of influences and interactions (Masten, 2015, p. 300). It also risks the teaching of resilience becoming assimilated into the audit and examination approach to education discussed above.

The *Child and Youth Resilience Measure* (Resilience Research Centre, 2016) is an example of an attempt to assess resilience levels in individuals. This developing resource is careful to acknowledge contextual influences, with the suggestion that when the administration is undertaken an initial set of contextual, site-specific questions is devised and administered. There is, however, a significant risk that practitioners take the 28 questions as a checklist of resilience indicators.

Banerjee et al. (2016) identify a lack of clear research evidence to support particular operational [programme] approaches to the development of resilience within school settings. Hart and Heaver (2013, p. 47) also point to many approaches being "Vague and conceptually weak" in their definition and use of the term resilience. Furthermore, when we conceptualise resilience as the dynamic emergence of properties of interrelated systems, as opposed to individual intrinsic qualities (Roisman, Padrón Sroufe, & Egeland, 2002), challenges are presented to providing generalisable research evidence.

Evaluation of the impact of approaches to developing resilience are often measured through observable behaviours within the school context, including levels of engagement, academic achievement or the ability to return to a previous state of being, following a traumatic event. These factors may be relevant as protective factors within the DIMoR, and therefore indicators towards resilience (ahmed Shafi et al., 2020), however are not likely to be enough to evaluate the effectiveness of approaches to develop resilience within the context of PPCT (Bronfenbrenner & Morris, 2007). This raises questions and implications for the approaches used to evaluate programmes aiming to promote resilience in education settings. In particular there may be particular challenges to the pervasive expectation that experimental and Randomised Control Trial approaches to evaluation will be the best approach. Positivist approaches to research evidence are likely to be challenged by the wide range of contexts and 'variables' which may influence the development of the individual. Furthermore, the indicators used to evidence resilient learners may well be conflated with narrow curriculum related successes (Agasisti & Longobardi, 2017), such as exam results (see Chap. 4). Researchers may need to consider more qualitative and creative approaches which capture inter-relationships, context and changes over time.

Developing resilient learners risks becoming perceived as a silver bullet, with skilled marketeers and providers of professional development courses offering a simplified, tick-box approach, presenting resilience as a static state of internal attributes or skills.

Suggestions

The DIMoR (Ahmed Shafi et al., 2020) provides a lens through which to consider the development of resilience in children and young people in school settings. This lens moves the focus away from operational considerations, focused upon interventions aiming to develop particular characteristics in individuals. Instead, the focus needs to be towards a systems-based and holistic view of individual learners interacting with others and within a range of systems. This needs to take into account individual relationships, organisational relationships and wider systems relationships, in an inter-related and dynamic context.

Some recent moves towards reconceptualising the school curriculum which take a wider systemic view are evident in some international contexts. Some clear examples include the "Framework for 21st Century Competencies" (MoE Singapore, 2019) and

the remodelled core curriculum created by the Finish National Agency for Education (2016), around Transversal competences. These curriculum statements reframe the conceptual aims of the curriculum away from narrow academic performance targets towards competencies for learning, world awareness and social engagement.

The focus of developing a school environment (Cohen, 2013) which allows for the promotion of factors related to resilience is an approach which is recommended as a way of encompassing contextual and systemic differences. Within this focus is the need for practitioners to focus on their own understanding of resilience and the interactions they have which can impact positively on the resilience of children and young people (Morrison & Allen, 2007). Rather than attempting to construct a set of consistent curriculum outcomes and targets, leaders in schools need to take account of the complexity of the systems and relationships influencing the learners in their settings. Consideration of a range of psychological, relational and organisational systems needs to be undertaken. The understanding that all of these systems change in an organic way as a result of interactions means that a blueprint, or set approach based on cause and effect, may not be an effective way attempting to construct or direct the school setting. Instead it may be more effective to aim to influence the school environment towards a congruence of ideas, values and practice through nurturing the positive aspects of the systems as a collective strengths-based approach through developing systems which emphasise collaboration and flexibility of approaches and outcomes. As such the emphasis for developing resilience may need to be on doing things differently and also doing different things.

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Part II
Exploring Resilience in Educational: Practice

Chapter 6
Resilience in the Early Years

Rebecca Pritchard

Abstract This chapter explores the development of a context within early years practice which provides a crucial opportunity for supporting children's resilience. It seeks to emphasise the importance of intervening early in order to encourage the emergent path of resilience, supported through neuroscientific research. Connections are made between the curriculum, values and community, in seeking to take a more systemic approach to understanding and meeting the needs of children. Explicit understanding and support for children to take risks and seek challenge, within the context of a key person relationship, is advocated to build the foundations of resilience. It is suggested that this early years approach provides a basis to not only influence the trajectory for resilience in children but to serve as a model for broader educational practice.

Introduction

Creating 'a healthy context for development' (Masten, 2001) within the early years can be considered a starting point for our children's trajectory in developing resilience. This is no small undertaking and recent lobbying from a range of organisations, research foundations and political movements emphasise how crucial the early years are in laying the foundations for resilience (Leach, 2017; Mathers, Eisenstadt, Sylva, Soukakou, & Ereky-Stevens, 2014). Arguably supporting the development of children's resilience is the greatest gift that we can provide for our children, and one that we have been aware of for some time, as illustrated by Frederick Douglass's famous quote, "it is easier to build strong children than repair broken men" (cited in Greenberg, 1998). Article 6 of The United Nations Convention for the Rights of Children (Gov.uk 2010) refers to children having the right to survive and reach their full potential and what has become increasingly apparent is that the early years context can significantly influence whether that potential is realised in subsequent years. More recently it has become possible to evidence the significance of developing

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resilience for future life outcomes through the fields of psychology and neuro-science (Clarke & McLaughlin, 2018; Siegel, 2015).

Recent publications revealing the correlation between Adverse Childhood Experiences (ACE's) and poor health outcomes, ranging from obesity and mental illness to heart conditions and ultimately early death, are stark reminders of the impact that early life experiences have on our subsequent development (Felliti et al., 2019). Understanding how these adverse experiences influence our development has been illuminated through developments in neuroscience. The Harvard Centre for the Developing Child presents clear research evidence that depicts how brain growth is directly influenced by an infants' surroundings and how they interact with their environment (2016). The complex developing dance between nature and nurture has been possible to choreograph in much more depth and detail so that we can appreciate the subtle but vital processes that influence successful growth.

This chapter proposes that resilience can be fostered as a core concept within early years practice, explored within the broad structure of the bio-psycho-social model (Bronfenbrenner, 1994) with further consideration given to highlight the factors that contribute to the complexity that exists, exemplifying the Dynamic Interactive Model of Resilience (DIMoR). Initially, consideration is given to the wider cultural landscape in which resilience transcends as a common language with which we seek to support future generations, before moving on to explore the specific contexts driving early years practice in England. A closer focus on the early years statutory framework and curriculum seeks to illustrate how fostering resilience can be located as the essence of effective practice.

The Early Years Cultural Landscape

Anthropological studies depict the cultural influences on communities supporting the transition within adulthood to parenting (Weisner, 2010). Indeed the measure of a successful society is how it manages to care for the future generation, responding to the vulnerable and dependant nature of the species to ensure survival. It would be naive to suggest culture alone provides a set of protective resources, when links between psychosocial and structural resilience are required (Panter-Brick & Eggerman, 2012). However, it is proposed that strong links with cultural traditions are associated with having some control over personal circumstances and more developed self-regulation skills (McDonald, Kehler, Bayrampour, Fraser-Lee, & Tough, 2016). Although further study is needed to explore the impact of cultural connectedness (McDonald et al., 2016), Ungar's suggestion of the importance of cultural moderation within his principles of resilience support consideration of the impact of the community of parenting practice (2013). Within our diverse society the range of perspectives, values and beliefs provide an opportunity to consider the individual differences and strengths that can be offered within our interactions. The presence of a shared value system is considered to be a protective factor, offering safety, understanding, and a more predictable context and sense of belonging (Werner, 2000).

The presence of protective factors can however have differential impact in different contexts and time, reflecting the complexity of these interacting factors. As families navigate their way through the challenges of parenting this complexity can present vulnerability and risk. Parents are required to interact with others, including health and early years professionals. Aside from the direct family unit, the early years provide the first experience of care and education of their children outside the family and with this comes a variety of challenges, questions and experiences. This relates to Ungar's principle of equifinality in which these different systems can be more or less influential on the outcomes for children (2013). From the start, parents, children, siblings (families) exist within a complex 'early years' system. A system which over the course of time has become increasingly subject to policy change and monitoring arrangements to endeavour to seek an equal and universal service for families to reduce social inequality through welfare reform.

It is evident that we are facing new challenges within our fast pace changing environment. This places greater pressure on our need to be able to adapt and respond flexibly, whilst meeting the needs of our children to enable them to have the foundations to manage and cope with future challenges. Previous chapters have focused on some of these challenges; sustainability, the role of the internet, the education system, youth offending and mental health. Amongst this ever evolving world, the constant essential need for relationships remains, yet this critical component is so easily disrupted. Relationships are the root through which we learn who we are and the mirrors that reflect our developing identity. We are experience-dependant from birth, reliant on those around us to support our inbuilt drivers for growth. Nursery rhymes reveal the fragile nature and disturbing realities that speak of the challenges faced alongside the joy and wonder of the earliest years. Bowlby sought to emphasise his theory of attachment through the use of the William James quotation, the "greatest source of terror in infancy is solitude" (Howe, 2011). The need for an attachment(s) is a defining feature of being human, consistent across culture and is cited as a protective factor in the development of resilience (Werner, 2000). How we seek to develop and maintain these attachments may differ, but we are all reliant on our relationships—not to merely survive, but thrive.

Recognising these varied influencing factors and principles within the wider family system and community, the specific context of early years provision within England can be explored to illustrate how the nature of practice has been influenced through social policy and initiatives within education.

The Early Years Context

Whilst education has been regarded as the mechanism through which social mobility can be achieved, research has not reflected notable success with this ambition (Bertram & Pascal, 2001). Despite universal access to education, not all children have benefitted and the challenge of removing social inequality continues. Encouraging results from interventions in America such as the High Scope Perry Pre-school

Program (Schweinhart & Weikart, 1997) illustrate that investment in both the social and educational provision for pre-school children was worthwhile in the long term. Early intervention was recognised as providing children with a solid foundation leading to success in life (Sylva, 1994). Further research by Reynolds (1998) identified eight key principles to enable successful early intervention, principles either seeking to address risk factors or promote protective factors in the early years (Table 6.1).

The economic argument for investment in the early years has been politically persuasive and by enhancing provision in the early years this also provided opportunities for parents to return to work. Curriculum guidance was developed to establish desirable learning outcomes for children. Significant developments under the Labour government saw free pre-school education roll out in addition to the Sure Start Programme (1998) that became further enhanced as part of the Every Child Matters Strategy (DfES, 2003), a mechanism that facilitated the reality of multi-agency working. Early Years settings were required to follow a new curriculum, the Early Years Foundation Stage (EYFS) (DfES, 2007), designed to ensure equal access to quality early years education and a focus on preparing children for school. Working in practice during this time there was a strong sense of feeling empowered to provide a support service for all families, addressing the first 4 principles of Reynolds successful early intervention. The Supporting Families in the Foundation Years document (DoE, DoHSC, 2011), echoed the principles outlined by Reynolds, those deemed to be influential in intervening early are recognised. Although developing resilience is not explicitly referred to, there are clear intentions to focus on areas that make a difference to families.

Following mixed reviews on the impact of Sure Start, responsibility for its continued provision rests with Local Authorities (Bate & Foster, 2015) and this has resulted in controversy over the apparent reduction in support and services across the country. There are numerous risk factors that many children and families face and these are not limited to the most vulnerable. The varying practices across Local Authorities therefore speak to the challenges currently being faced in delivering an equitable service to families and children, despite the implementation of universal and

Table 6.1 Eight principles for successful intervention (Reynolds, 1998)

(1) Target children and families at highest risk of educational underachievement
(2) Begin participation early during the pre-school period and continue into the school period
(3) Provide comprehensive child-development services
(4) Encourage active parental involvement in educational and care provision
(5) Adopt a child-centred, structured approach to the pre- and primary school curriculum
(6) Ensure small class sizes and teacher/child ratios
(7) Offer regular staff development and in-service training for qualified teachers
(8) Undertake systematic evaluation and monitoring

tiered services designed to be responsive to need (Allen, 2011). Funding reductions have meant the 'early intervention' allocation has fallen by 64% between 2010/11 and 2017/18, increasing demands and a changing policy landscape have prompted a shift in focus (National guidance on the 'core purpose' of children's centres in 2013) to targeting 'high need' families, rather than open access to universal services (Delivering Children's Centre Services, 2018; Smith, Sylva, Sammons, Smith, & Omonigho, 2018). This more reactive stance to work in the Early Years suggests a move away from early intervention. Critics have also argued that policy developments over time have led to a 'schoolification' of the early years, that the focus is on the needs of the political, social and economic constructs of early childhood and education rather than the views of children and families at the centre (Faulkner & Coates, 2013). Whilst further consideration needs to be given to developing a more sustainable model for delivering support services in the early years, attention will be given to the nature of the microsystem supporting all children, specifically, the universal opportunities that lie within early years settings.

The Early Years Curriculum

The Statutory framework for the Early Years Foundation Stage (EYFS) (DfE, 2017) and Development Matters for the EYFS (Early Education, 2012) outline the approach to delivering a developmental curriculum from birth to age 5. Early learning goals are identified for children which then have implications for assessment. An incongruence exists between the clear aim for educative outcomes or 'school readiness' and the nurturing approaches advocated within a developmental curriculum. Within the structure of the curriculum, four key themes and principles underpin the guidance. These themes reflect a supportive context for children to develop, as depicted within Bronfenbrenner's, ecological systems theory (Fig. 6.1).

The characteristics of effective learning suggest that children cultivate agency when, engaged (playing and exploring), motivated (active learning) and developing their thought processes (creating and thinking critically). Child development theory has supported our understanding of how children learn through creating meaning from their experiences, with the appreciation that this crucially takes place within an environment of relationships. Within the early years, there is an imperative to intervene early and identify what might be or could be done, that would benefit children and their families. It could be argued that the very notion of trying to 'help' or 'intervene' undermines a resilient approach to support. However, this misses the key concept of resilience as an enabling tool and one in which the autonomy and strengths of the individual and context are sought. Grotberg (1995, p. 11) seeks to summarise the sources of resilience as 'I have, I am, and I can'. Simply put to highlight promoting a sense of self, developing self-esteem, self-efficacy and autonomy. As outlined within the Table 6.2, these sources of resilience, framed within a psychosocial context, directly correlate with the three aspects within Personal, Social and Emotional Development (PSED), prime area of learning within the EYFS.

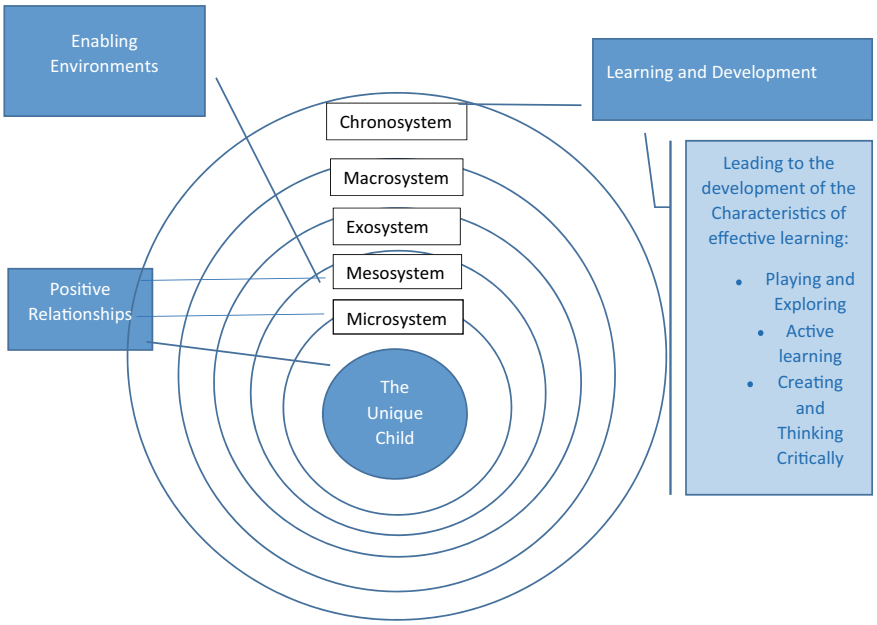

Fig. 6.1 Bronfenbrenner's bio-psycho-social-ecological model of human development annotated with themes from development matters in the EYFS (Early Education, 2012)

Table 6.2 Connections between sources of resilience with aspects of Personal, Social and Emotional Development (EYFS)

Source of resilience	Description	Aspect of PSED (development matters in the EYFS)
I have	People who; love me, set limits for me to protect me, want me to be able to do things by myself	Making relationships
I am	Loveable, concerned for others, able to take responsibility for my actions, hopeful about the future	Self-confidence and self-awareness
I can	Communicate my needs, problem solve, self-regulate	Managing feelings and behaviour

The EYFS curriculum guidance recognises the central role that the early years has in supporting the development of children's resilience. Although this concept is not named, it places the importance of children's PSED as a prime area of learning, identifying this as a priority. The significance of such an aspect of development is established within theory surrounding the importance of the executive functions of emotional intelligence and self-cognition (Goleman, 2011; Goldstein & Brooks, 2013). The focus on PSED advocates for the individual needs of the child, seeking to understand and be responsive in order to meet these needs. It is only through children

experiencing the dependant and trusting relationship of another that they are able to feel safe and secure, and become more independent. The reliability of this attachment experienced through intimate interactions, provides a protective factor that can support the development of self and future relationships, forming a positive internal working model (Cowie, 2018) that reflects the sources of resilience as outlined by Grotberg (1995).

The Early Years: Relationships

It is proposed that the mechanism for these relationships to develop is through the key person approach (Elfer, 2013), not key worker—a substituted term which places incorrect emphasis on the administrative role within early years. The interactions that occur between individuals have been demonstrated to activate neural pathways that aid brain growth and development (Shonkoff, 2017). This fundamental connection between carer and child has been explored in depth, referred to as the 'serve and return', the ability to respond in an attuned way to children has a significant impact, highlighting the importance of how affection shapes a baby's brain and enables attachments to develop (Gerhardt, 2014). This key person's role, or always available adult (AAA) (McDonald et al., 2016), is to build a relationship through sensitive responses and in doing so provide a protective factor that supports the development of resilience. It is not to try and ensure that the child is never distressed or unhappy, much as we instinctively seek to protect our children and achieve emotional balance. The importance of emotional equilibrium is to develop an awareness of how feelings change, their purpose is to unsettle and notice if contexts are unsafe or potentially dangerous. Children need to know that uncomfortable feelings are manageable which is different to not experiencing uncomfortable feelings. Beginning to develop this tool of self-regulation is one that is initially managed by those caring for children, a life-long skill we seek to accomplish, 'Self-regulation, which is like an ongoing inner conversation, is the component of emotional intelligence that frees us from being prisoners of our feelings' (Goleman, 1998: 98).

Within children's development there is a cultural tradition and expectation that relationships support the mastery of skills leading to self-regulation. This level of executive function moves what begins as a reactive impulse to a behavioural response that is proactive and goal directed (Centre for the Developing Child Harvard University, 2016). It is important to acknowledge that the role of the key person as an attachment figure is skillful, being required to provide balance, relied upon when necessary and enabling children to be able to cope with uncomfortable feelings at times of distress. The Centre for the Developing Child identify different types of stress that are we are biologically programmed to respond to, to ensure our survival. A positive stress response is typically relatively short lived, promoting some physiological changes in heart rate and hormone levels and can be associated with moments such as beginning nursery. A tolerable stress response is longer lasting and in response to a significant event such as fear-provoking injury or bereavement. Within the context

of supportive relationships the duration and impact of this stress can be buffered. Toxic stress refers to contexts that trigger prolonged activation of the stress response system which can result in significant alterations in the developing brain and it is these contexts that are connected with the research on adverse childhood experiences (ACEs) that result in poor life outcomes (Felitti et al., 2019). When children experience a stress response they are reliant on others to enable them to manage. A response that seeks to provide a child with the ability to regulate and mediate their stress response system will serve not only to provide physiological and psychological relief at the time, but also support as a guide for managing future stressors, thus becoming more resilient. These responses and factors that impact on them influence the trajectory of children in developing resilience.

As outlined in Chap. 2, Daniel, Wassell, and Gilligan's model of resilience (1999) can be used to further depict the dynamic and interactive nature of resilience, recognising the complexity of how children adapt to their surroundings and experiences. Supported by studies of risk and resilient factors following potential traumatic events, the cumulative nature of factors are identified (Bonnano & Diminich, 2013). In the case of protective factors, these build over time through experience and therefore have the capacity as a tool to transform stress from potentially being toxic to tolerable. This additive nature of layering of experience can be applied using Ungar's principles of equifinality, differential impact and cultural moderation to explore the trajectory of children in relation to their contexts (2013). In the DIMoR, (ahmed Shafi et al., 2020), children do not 'bounce back' from these challenging experiences but move on a trajectory of emerging resilience (Bonnano & Diminich, 2013).

The Early Years: Risk

The process of developing resilience can therefore not take place without some degree of challenge and potential vulnerability. When children are emotionally secure through the relationships they develop it is possible to explore, provide flexibility and compromise, and give enough room for choices and decisions where children can 'feel the edges of their autonomous interdependent self' (Manning-Morton, 2013, p. 61). Küenzlen, Bekkhus, Thorpe, and Borge identified that children exhibited an increase in pro-social behaviour following potentially traumatic events (2016). Within this study questions followed regarding the possible social mechanisms underlying resilience, suggesting an adaptive response in which children seek connections with other children. The study also recognised that in Norway there is greater emphasis on the physical environment allowing children to learn by taking risks. The importance of outdoor play to support physical, intellectual and social development has long been recognised (Little & Wyver, 2008), but the approach to supporting children in engaging with challenge and risk has been questioned. McClintic and Petty (2015) identified that practitioner's beliefs and approaches to outdoor play valued the role in children's development, yet focused on the role of supervision with adherence to rules, reminiscent of the 'bubble wrap generation' (Malone, 2007).

The EYFS statutory framework includes guidance on how settings need to ensure the safety of children and also manage risks, by 'making reasonable adjustments to ensure that staff and children are not exposed to risks' (DfE, 2017: 31), although understandably the application of this guidance is open to interpretation. Whilst the use of play and the outdoor environment is actively promoted within the early years guidance, the reality of what children experience is variable. The explicit message that "playing is the ability to take risks that would otherwise be too dangerous" (Hendricks, 2017, p. 5), to thereby foster sources of resilience, is not recognised broadly enough in practice. The development of play for children has seen a reduction in freedom and connection with the natural world and their ability to explore and challenge. The growth of forest school approaches and the desire to build practice in this area suggests that there is real interest and recognition of the need to support children's personal, social and emotional development. An approach to supporting resilience is more than following guidance or curriculum, it is about what is valued and believed to be important. Brock's review of professionalism from a practitioner perspective, recognises the importance not just of knowledge, skills and training (these are vital) but those of ethics and values and feeling empowered to act with professional judgement (2013).

Conclusion

This chapter has positioned the early years as a crucial opportunity to support emerging resilience for children, suggesting that this can be positively influenced and supported through the key person approach and the development of sensitive and attuned relationships. The early years statutory guidance and curriculum (DfE, 2017) supports and recognises the importance of children's personal, social and emotional development, yet does not make the significance of resilience explicit. There needs to be a clear message that resilience gives the possibility of well-being, but this does not necessarily equate with well-being. Practitioners can be reassured in recognising the role of discomfort, challenge and potential stress in supporting a developmental process which we are all biologically designed to respond and adapt to, in order to progress (Küenzlen et al., 2016).

It is acknowledged that the focus of this discussion has not been on the negative implications of disruption, but rather the prosocial development and growth that build the foundations of resilience (Shonkoff et al., 2015). Implementing this approach faces a number of potential barriers, of which there are too many to explore within the scope of this chapter. The importance of resilience as a value, a process and tool to aiding positive longer term outcomes for children warrants further attention. The DIMoR (ahmed Shafi et al., 2020), offers a conceptual rationalisation of how the trajectory of resilience is dynamic, interactive and heavily influenced by context and there is the opportunity to influence this beginning in the early years. This prospect can be extended; not only 'setting the scene' for later educational experience, but influencing what takes place in the wider educational system. These principles in

practice for building resilience are not exclusive, and should be influencing our education of children across the age ranges.

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Chapter 7
Resilience, Well-Being and Mental Health: The Role of Education Settings

Sian Templeton and Rebecca Pritchard

Abstract This chapter explores the rising profile of mental health and wellbeing within the school population. It tries to make sense of variables within defining mental health and wellbeing and the interaction between these definitions, schools, individuals within schools and the wider policy context. Some of the challenges for meeting the mental health needs of the student population are discussed with consideration of the impact of competing priorities on teacher ability to meet these needs. The link between mental health and well-being and resilience is considered with discussion using the DIMoR (ahmed Shafi et al., 2020), as an opportunity to understand wider influences on mental health and well-being. The chapter highlights links between expectations, teacher efficacy and the nature of taking a more systemic approach to understanding and meeting need across all levels within a system is highlighted and ideas for future research and approaches are suggested.

Introduction

The focus on mental health and well-being is a relatively recent phenomenon, (Pilgrim, 2017) Historically, there has been more of an approach of exclusion of those experiencing 'mental illness' using terms such as 'lunacy' and 'asylums' with an approach aligned with the medical model of disability whereby patients were treated with quasi-medical interventions or admitted to asylums as the rest of society did not know how to manage or tolerate mental illness. More recently, there has been a recognition that there is more of a continuum between mental illness and mental health and wellbeing with some arguing for a dual definition separating mental illness from mental health and wellbeing. Part of the argument for this dual definition centres around the idea that mental health and wellbeing does not have to be commensurate

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with mental 'ill-health' and the deficit model but can also be about being mentally 'healthy'.

The more recent focus on mental health promotion has also made links to resilience as a concept. This connection between mental health promotion and resilience is made by both charities, such as The Mental Health Foundation offering practical guidance on promoting resilience as part of an integrated health and wellbeing programme, alongside academic research such as the meta-analysis conducted by Davydov, Stewart, Ritchie, and Chaudieu (2010) which found clear links between interventions for positive mental health and resilience. This idea has also been developed more specifically focusing on children and young people with Noble, McGrath, Wyatt, Carbines, and Robb (2008, p. 8) stating that "…in the context of school and educational settings, optimal student wellbeing is defined as a sustained state of positive emotions and attitude, resilience, and satisfaction with self, as well as with relationships and experiences at school." A number of these themes identified by Noble et al. will be explored within this chapter.

This chapter will therefore explore definitions of mental health and wellbeing and the need to distinguish this term from 'mental illness'. The current policy context and associated discourse is explored alongside and the inter-related nature of the current perceived 'crisis' within the mental health of our child and youth population and the relevant external sources which may contribute to this. How this discourse links to education in the broadest sense then focusing in on the various players within this system, (such as teachers, students and school leaders), and the bidirectional impact of these relationships is discussed with consideration as to how the DIMoR (ahmed Shafi et al., 2020) helps with both understanding and intervening to optimise outcomes for all.

Definition

The World Health Organization (2004, p. 10) defines mental health as being "a state of well-being in which the individual realizes his or her own abilities, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to his or her community." This definition makes the distinction that mental health is not focused upon a deficit model of something being wrong or the absence of mental illness, but also to be a full and active participant in daily life events. The conceptual and practical overlap between promoting well-being and preventing mental ill-health is reflected in the media with the potential to confuse. It has been suggested that the factors that influence mental illness are the reverse of those associated with well-being, i.e. working on a continuum. This appears to be the case in relation to some specific factors, such as; single parent family and school connectedness, identified in Patalay and Fitzsimons 'correlates of mental illness and well-being' (2016)**.** However not all factors appeared to work in this way, such that an increase in mental ill-health results in a decrease in well-being or vice versa, this was identified with factors including; cognitive ability, health factors, and parent

health. The continuum model has therefore been questioned, the two constructs, mental illness and well-being representing the domains of mental health on a single spectrum, are not influenced by the same factors at different ends of the spectrum (Patalay & Fitzsimons, 2016). Within this study the millennium cohort data evidence indicate that the determinants of well-being in many instances were different from the determinants of mental illness. For example whilst there were similar variables such as; "family structure, sibling bullying, peer problems", correlating with both mental illness and well-being, these were different in other areas such as; "family income, perceived socioeconomic status, cognitive ability, health status and neighbourhood safety". These outcomes provide clarity in using key terms, with a sharper focus for supporting the prevention and intervention of broader developmental drivers that contribute to mental illness in addition to addressing and improving areas that are likely to impact on children's well-being. Of the variables indicated in the study; school connectedness, being bullied, friendships, and perceptions of safe neighbourhood were strongly correlated with wellbeing. These findings can support the move within educational environments to promote well-being, enabling children and young people to achieve their potential and cope with the stressors in life. This latter aspect of the WHO definition, resonates with the concept of resilience, recognising that mental health is more than the absence of mental illness (Patalay & Fitzsimons, 2016). This suggests that well-being is a useful concept to connect the development of resilience, using protective factors to further support mental health (Roffey, 2016). The term well-being also infers the need to account for broader contextual factors (Weare & Gray, 2003; Watson & Emery, 2012) which incorporates ecological models of interaction supporting children and young people's development in line with dynamic nature of interacting systems within the DIMoR (ahmed Shafi et al., 2020).

In light of an approach that seeks to promote mental health, it is of great concern that recent self-report data indicates that young people's well-being is at an all-time low (Good Childhood Report, 2017; Prince's Trust Macquarie, 2018). More specifically, Pienaar and Johnston (2017) estimate that one in ten children and young people have a diagnosable mental health condition. Understanding what appears to be an alarming shift in the well-being of children and young people is crucial in developing a supportive response.

Current Context: Policy

The 'crisis' facing the mental health needs of children is well publicised with government figures citing that one in ten children need support for mental health difficulties, (DoH & NHS England, 2015). A 'perfect storm' has been developing in which the combined effect of the increased demand for mental health services for children and young people as well as significant financial pressures on the NHS service have resulted in reduced access to support (Thorley, 2016). Lessof, Ross, Brind, Bell, and

Newton's (2016) longitudinal study highlights specifically the increases in psychological distress among adolescent girls in comparison with their earlier study in 2005. In addition to this, an increase in internalising mental health problems in adolescents and young adults has been identified by Bor, Dean, Najman, and Hayatbakhsh (2014) with a substantial increase in hospital admission episodes where self-harm is recorded as the cause (Burt, 2016). In addition to this, a high prevalence of depressive symptoms has been identified as being recorded in 14 yr olds: 24% girls and 9% boys by Patalay and Fitzsimmonds (2016). However, Patalay and Fitzsimmonds go on to suggest that despite these alarming statistics, it still needs to be acknowledged that the majority of 3–14 yr olds in the UK are not suffering from 'mental ill health'; instead there is a substantial proportion of this population who are experience instead more general mental health and well-being difficulties.

The NSPCC childline review identified that 1 in 3 of their counselling sessions related to mental health and wellbeing issues (2016), of these 87% who reported difficulties were able to access local support services. Nevertheless, a national discrepancy exists within service provision with the Children's Commissioner (2016) reporting 79% of Child and Adolescent Mental Health services (CAMHS) imposing restrictions and thresholds to access their service which results in a national inequality in access to appropriate services with professionals trained to understand and meet the needs of our school-age population with ever increasing waiting lists resulting. Khan (2016) reports on the 'decade of delay' between the first signs of needing support and receiving help from mental health services. The reported cuts to CAMHS services (House of Commons Health Committee, 2014) as a service that meets the needs of children and young people with the more severe needs would suggest that perhaps there needs to be more of a focus on early intervention as a way of reducing the demand on this service. However the value of the early intervention allocation for local authorities dropped by 55% over the past 3 financial years (Thorley, 2016). Whilst there is a lack of clarity surrounding the statistical picture there are concerning trends facing our your people with girls reporting lower levels of life satisfaction than boys and higher symptoms of stress (Brooks et al., 2017).

The economic and social vision for the nation to transform outcomes for young people's mental health and well-being is clearly outlined in Future in Mind (2015). Key to the principles of this approach are the connectedness of mental health workers and school staff working in collaboration and support of one another. This call for multiagency working (Cooper, Evans, & Pybis, 2016), is not new and yet the history of developing policy and guidance illustrates the detached nature of practice within Education and Health.

Every Child Matters (DfES, 2003) was one of the first policies which considered emotional health and wellbeing more specifically relating to education. This policy outlined the importance of supporting foundations for children and with the first of five key outcomes for children as 'being healthy' which included mental health. Healthy lives, Healthy people (DoHSC, 2010) estimated that tackling poor mental health could reduce the overall disease burden by nearly a quarter, emphasising a strategy that gave equal weight to mental and physical health needs and for local solutions to address this public health issue. An approach that was echoed within

Achieving Equity and Excellence for children (DoH, 2011) to improve services for children. No Health without Mental Health (Gov, 2011) moved towards a set of shared objectives in which mental health is described as 'a priority across government' driven by sub-committee. The Health and Social Care Act (2012) sought to enable change through commissioning groups and a focus on public health across the life course designed to meet specific need although arguably emphasising national disparities. Awareness of early intervention and prevention has been supported with the implementation of the Early Years Framework and developments to the Early Years Foundation Stage (EYFS) curriculum (DfE, 2008) emphasising PSED as a prime area of development, an implicit focus on supporting children's mental health (Soni, 2012) aligned to supporting foundations for life, health and learning (Tickell, 2011).

The social shift in conceptualising mental health as everyone's responsibility (Future in Mind 2015) is reflected in terminology changes within key education policy documents such as the SEND Code of Practice to 'social, emotional and mental health difficulties' (DfE, 2015). The published 'Mental health and behaviour in schools' (DfE, 2016) and 'Counselling in schools: a blueprint for the future' (2016) which seek to clarify the responsibilities of schools and advise on whole school approaches to supporting mental health and well-being. Transforming children and young people's mental health provision (DoH & DfE, 2017) is a collaborative development which has the potential to move towards a reality of the Future in Mind vision (2015).

Factors Influencing MH

As previously outlined, a focus on mental health is proposed, rather than illness to move away from a deficit model, (Rogers & Pilgrim, 2014). Explanations of the widely socially accepted view of an increase in mental health difficulties, and portrayal of mental health difficulties in children and young people has provided debate surrounding possible causal factors which are challenging to substantiate within a clear evidence base (Deighton et al., 2019). The complexity of influencing factors on mental health has been the focus of Patalay and Fitzsimons study (2016). Of note, they identified that whilst the social gradient for mental illness is observed within children and young people, this is not the case for well-being. This indicates that social deprivation has not impacted on young children's subjective reports of well-being. Therefore the focus on supporting children's education and development is justified in promoting and impacting on their well-being. By providing additional protective factors within the opportunities that education provides can further the development of children's resilience.

The development of behaviours associated with social media suggest that there is a clear desire to engage in this discussion. The need to belong within social groups is a strong predictor of well-being for children, this need for perceived social acceptance, in order to achieve the protective factors of safety, described by Maslow, continue to

be relevant in significantly influencing children's self-perception and emotional well-being (Bland & DeRobertis, 2017). The role of peer relationships is well documented and recognised as potential risk or support for well-being (Apland, Lawrence, Mesie, & Yarrow, 2017). The way in which children initially develop their relationships, are accepted and socialised, is heavily influenced by their carers. It is possible to identify tensions between expectations for social and cultural norms and potentially distressing experiences or actions that deviate from these (Rogers & Pilgrim, 2014). This resonates with Ungar's concepts of *equifinality, differential impact* and *cultural moderation* and the way in which these influence the trajectory of resilience. It is evident that parents report differently to children on their perceptions of well-being (Sixsmith, Nic Gabhainn, Fleming, & O'Higgins, 2007). Rogers and Pilgrim highlight the importance of acknowledging a potentially adult-centric view and the impact this may have on underlying approaches (2014). Seeking the views of children and engaging them in an appreciation of the factors that influence their well-being serves to develop a psychoeducational approach to building protective factors.

Over a third of UK 15 year olds in the UK are described as 'extensive users of social media' (Frith, 2017), with an increasing trend for younger children to be 'on-line' (Livingston & Hadden, 2009), with 27.6%, six years or younger when first using the internet. The Office for National Statistics has found a "clear association" between longer time spent on social media and mental health problems, with each additional hour spent online associated with a negative impact on life satisfaction (Frith, 2017). One factor that may contribute to this, identified within the PISA Wellbeing study, is the suggestion that 'extreme internet users' (defined by the OECD as a student who uses the internet for more than six hours outside of school on a typical weekend day), were more likely to report bullying than moderate internet users (PISA 2015). This group of extreme internet users, also reported poorer life satisfaction scores, suggesting a correlation between time spent on social media and well-being. However the way in which children and young people interact with social media is constantly evolving and there is potential to develop protective factors, being able to; "increase social connections, develop identity and seek help" in addition to other educative opportunities (Frith, 2017). Detailed discussion seeking to highlight how self-organised learning environments (SOLE) can support the development of resilience have been outlined within Chap. 12. What appears to be the most significant measure within recent studies is the proportion of time spent, "excessive use" is deemed to pose a risk with the potential to; "share too much, cyber bullying, influence body image, and be the source of potential harmful content or advice". Findings suggest that the self-regulation of social media use is a key skill that children and young-people need to develop. Feeling a sense of belonging is not purely achieved through peer relationships, the notion of school connectedness has also been directly attributed to pupil –teacher relationships. This 'key protective health asset' based on a caring relationship features repeatedly in children's feedback (Apland et al., 2017; Garcia-Moya, Brooks, Morgan, & Moreno, 2014). Overall, 80% of young people (79% of boys and 81% of girls) reported that they have at least one teacher they can go to if they have a problem (Brooks et al., 2017, HBSC report). The emphasis on the importance of this relationship has broader implications for the educator's role.

Role of the Educator in Supporting MH

Having outlined the current context of children and young people's mental health and the prevalence of those who are currently not receiving support, estimated at 40% (Weeks, Hill, & Owen, 2017), the role of schools has been identified as having a crucial opportunity in both identifying and supporting children and young people with mental health needs, DfES (2003), DCSF (2008, 2010) and DfE (2014a, 2014b). This echo's the WHO (2004) suggestion that mental health is 'everyone's business' and that 'neither mental nor physical health can exist alone' (p. 11). Alongside statutory duties to keep children safe (DfE, 2015, 2018), the UK Government's green paper about mental health, (DoHSC and DfE, 2017) further reinforces this shared responsibility for mental health. This first ever joint publication about the state of provision to support mental health problems, focuses on earlier intervention and prevention, emphasising the role of the school and educators in supporting children and young people.

School professionals thus find themselves in the position where they have the opportunity to have a positive impact on both recognising and supporting their students mental health needs (Graetz, 2016; Johnson, Eva, Johnson, and Walker 2011; Pienaar & Johnston, 2017; Thorley, 2016). One of the significant challenges in engaging vulnerable children and young people in support, is the need for them to meet professionals and attend clinic appointments, when often the very difficulties they are experiencing present barriers to accessing this external support. The opportunity to "bring support to them", rather than placing the emphasis on them needing to find it, would seem beneficial (Weeks et al., 2017). However, despite this opportune placing, Dods (2016) found that early career teachers have reported feeling underprepared in their 'mental health literacy' in order to act upon and support student mental health, with Graham, Phelps, Maddison, and Fitzgerald (2011) suggesting variability in teachers self-efficacy with regard to meeting the mental health population of their students. The Government is clear that is does not expect teachers to become mental health workers and yet it is very difficult to distinguish between these potentially overlapping roles. Vulnerable children and young people's testimony frequently illustrates the crucial role of individual teachers in making a significance difference. Often cited as the person that listened to them, the connection with a trusted adult (educational professional) has been demonstrated nationally and internationally to be a key protective factor (Garcia-Moya et al. 2014). This is not to suggest that this relationship is uni-directional (Roffey, 2012). Teachers have reported that one of the most significant factors that contributes to job satisfaction, a source of motivation and enjoyment, is the relationships they have with their students (Baumeister & Leary, 1995; Hargreaves, 2000). The importance of an enabling environment to support the development of relationships should therefore not be underestimated or undervalued. Teachers report that they view supporting student mental health as part of their role, though expressed concerns about their perceived competence (Mazzer & Rickwood, 2015). Previous research has demonstrated that non

mental health professionals can be effectively trained to deliver support interventions such as Cognitive Behavioural Therapy (e.g., Ginsburg et al. 2008; Westbrook et al. 2008). However, this requires investment in staff training and where complexity exists, such as children and young people with neuro-developmental conditions, this is insufficient. Staff need to feel confident and equipped to support their students, the mismatch between feeling responsible and being able to support, given the time constraints within school settings, being cited as a significant contributor to teacher stress (Ekornes, 2017).

Supporting the Educator in Supporting MH

With Teacher stress and mental health issues increasingly hitting newspapers with headlines such as: "Teachers are at breaking point. It's time to push wellbeing up the agenda, (The Guardian, April 2018); "Nearly half of teachers struggle with mental health, suggests survey, (Hepburn, 2017); 'Epidemic of stress' blamed for 3,750 teachers on long-term sick leave, (The Guardian, January 2018) it is essential that the importance of educator voice and needs is kept central to the discussion around meeting mental health needs. Issues cited within these articles included the widely acknowledged work-load expectations, but also issues such as the "heavy burden' of guilt about the educational experience [offered to pupils]' (Asthana, 2018). This wider systemic impact is not isolated to just teaching staff, but the senior leaders in schools as well as teaching assistants and administrators (The Guardian, April 2018). These newspaper headlines are also featured within the wider research literature including the finding from Evans et al. (2018) which argues that teaching professionals are at an increased risk of common mental health disorders compared with other occupations.

This concern about the mental health of teachers is further underlined by the findings from the Teacher wellbeing index (2018) which is commissioned by the Education Support Partnership. This report found 67% of education professionals describe themselves as stressed with 76% having experienced behavioural, psychological or physical symptoms of their work and 43% of the professionals completing the survey experiencing symptoms which could meet the criteria for a diagnosis of anxiety. Despite these statistics, a significant proportion of respondents were working within the education profession because of the desire to make a difference, and to work with children and young people. This indicates that there is a potential dissonance between their expectations in entering the profession and their actual experience which has led to these worrying statistics. Evidence suggests that a mismatch between expectations and reality, (incongruence), particularly within the professional domain is negatively associated with symptoms of depression (Paloma, Garcia-Ramirez, & Camacho, 2014). This, alongside the finding from Spilt, Koomen, and Thijs (2011) that teacher's relational experiences with individual students are predictive of their wellbeing, suggests the interactions within the smaller sub-systems of the students

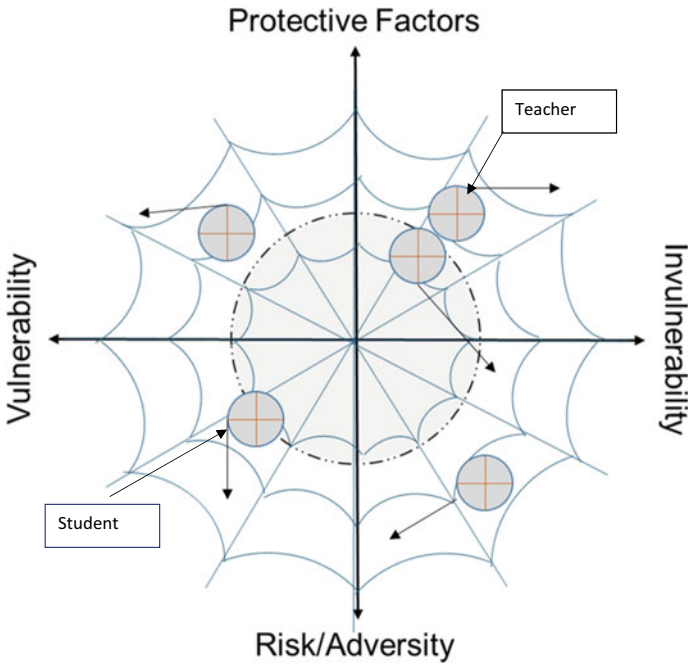

Fig. 7.1 Teachers and students as a system in their own right

and the teachers are crucial for optimising the wellbeing of both students and professionals working in schools. The DIMoR, (ahmed Shafi et al., 2020), can help to illustrate this in Fig. 7.1 whereby the smaller 'orbs' can represent both students and teachers carrying their various sub-systems, (which influence their beliefs, affect and behaviour), which then interact/ 'bounce' off each other thereby influencing the developmental trajectory of both sub-systems (in this case students and teachers).

There is much literature which emphasises the link between teacher and student mental health and wellbeing, (Johnson et al., 2011; Roffey, 2012). This runs concurrently with the growing expectation that schools, and therefore teachers, respond to the mental health needs of their student population in order to help the more traditional mental health services cope with the increasing demands on their resources as detailed in the opening of this chapter. It has been identified by Ford, Hamilton, Meltzer, and Goodman (2007), (amongst others), that teachers are the professionals most likely to have routine contact with students in regard to their mental health and thus an increasing number of interventions to intervene with difficulties in student mental health thereby becoming the responsibility of teaching professionals. However, poor teacher wellbeing can reduce teachers' belief in their ability to support students, (Sisask et al., 2013) with this problem being compounded by a lack of training in how to effectively do so, the cycle is then repeated as the associated feelings contributing to a lack of efficacy and thus a negative impact on teacher health and well-being. This therefore indicates that, in order to improve mental health of learners, we need to work

towards improved mental health and wellbeing of teaching staff. This inter-related nature of the wellbeing of students and teachers is emphasised by Roffey (2012) in her article which found that schools who valued their teacher well-being obtained better outcomes for their students and also incidentally for the wider finances of the schools due to increased retention rates. This optimisation of outcomes occurred in schools where there was a whole-school ethos with a focus on relationships which were overtly discussed and promoted across the school. The DIMoR, (ahmed Shafi et al., 2020), would recognise this in this instance as the school being wider web with teachers, other school staff and students moving as the orbs and interacting, developing and adapting as a result of the support and challenge of this positive wider school ethos.

The DIMoR, (ahmed Shafi et al., 2020), helps to illustrate how both individuals, and the various systems within which those individuals reside interact in both protective and 'risky' ways to impact on resilience. If teachers are considered a system in their own right and the students are a different system then these interactions are critical in their impact on resilience; both for the teacher and the learner (see Fig. 7.1). Teacher well-being will impact on student well-being through their interactions and through the learning environment that they create within the wider 'web' of the DIMoR, (ahmed Shafi et al., 2020), and this interaction will be reciprocal. Therefore, in order to enhance teacher, and thus student well-being, there needs to be a climate, wider system, (in this case the wider web), which promotes openness and fosters mutually trusting relationships between, staff, students and the wider school community.

Role of the Setting in Supporting MH

As discussed in Chap. 5, there is a growing recognition of the opportunity that schools present in their key role in being able to impact on the mental health and wellbeing with Greenberg (2010) positing that they are the only real universal provision for children which is acknowledged within the government green paper, (DoHSC & DfE, 2017). Within the wider context of the mental health debate, (as discussed earlier), there is a wide recognition of the importance of early intervention (Humphrey & Wigelsworth, 2016; Parsonage, Khan, & Saunders, 2014) with Davies (2013) suggesting that a focus on prevention rather than a more reactive approach of dealing with mental illness is more cost effective (DoH & NHS England, 2015; Layard, 2005). The Department of Health and NHS England (2015) highlight the prevalence of the onset of mental health difficulties with their finding that 75% of adult mental health problems originate under the age of 18, whilst children and young people are still at school and posit that schools are one of the universal services which play a key role in the prevention of mental health problems. Thorley (2016) reinforces this focus arguing that early intervention mental health services for children and young people must be rejuvenated and goes on to suggest that secondary schools should play a central role in this. This is further developed by Stallard (2013) in his research where

he advocates the potential of early intervention programmes and activities having a significant impact on psychosocial and academic performance with teachers not just in secondary schools, but across the age ranges being well-placed to support this.

As professionals who come into daily contact with parents, teachers are finding themselves increasingly utilised as a sources of support when parents are worried and concerned about the mental health of their children with Ford et al. (2007) finding that parents contacted teachers as mental health experts more than any other professional. There is a recognition however that teaching staff do not necessarily have the understanding and skill set to be able to both recognise and meet the mental health needs of children and young people. Ford et al. (2007) argued that this highlights the need for all professionals working with children, including teachers, to acquire basic skills in identification and management of minor difficulties and knowledge of how to access more specialised services. Foxcroft (2014) would support this, arguing that informational prevention can have a positive impact on reducing the prevalence of poor mental health. This would hold true for both parents and teachers in supporting their understanding of the causes and contributory factors of presenting mental health needs within children and young people. There is evidence that an understanding of concepts helps with teacher efficacy of practice (Ingvarson, Meiers, & Beavis, 2005). The House of Commons Health Committee (2014: 12) recommend that the Department for Education looks into including a core module within all Initial Teacher Training which focuses on mental health and that further modules should be provided for both teaching and support staff as part of the schools CPD provision. This recommendation arose out of the committee's finding that, according to reports from young people, the understanding amongst school staff was sporadic with some teachers and schools provide excellent support whilst some are less well trained and even seem 'scared' of discussing mental health issues. As teachers social and emotional competence can be seen a source of safety and security (Jennings & Greenberg, 2009) and supportive teacher-student relationships can enable a child or young person feels they belong to a wider community, then an increase in understanding which helps to develop prosocial competence in teachers would potentially help to further facilitate this sense of 'belonging'.

Schools are recognised as being well placed to make a very significant contribution to the emotional well-being of children which has positive implications for mental health, (Geddes, 2006). For children and young people who experience mental health difficulties as a result of their attachment relationships, schools and school communities can be construed as places of safety (Golding et al., 2012). This links to the ideas presented in Chap. 2 around the importance of relationships and community membership as protective factors in developing resilience. Banerjee, Weare and Farr's (2014) finding that a socially and emotionally literature school ethos impacts positively on pupil attendance, and then academic attainment reiterates the potential of schools to act as a protective mechanism for learners who may be experiencing difficulties outside of their school life. School settings are therefore key here due to their ability to create and sustain a sense of belonging for children and young people through both the formal and informal aspects of their curriculum as part of a broader

ethos rather than simply relying on specific programmes designed to develop specific skills.

There is a growing argument that rather than focusing on 'discrete' programmes which respond to presenting mental health need that the focus instead should be on prevention and more of a whole school and wider systemic approach (Roffey, 2012; Sisask et al., 2013). Therefore, individualised packages would appear not to be sufficient to respond to the growing mental health needs within our student population discussed earlier in this chapter. The DIMoR would support this, recognising the bi-directional nature of interactions between individuals within the system (i.e. students and teachers), individuals and the system itself (i.e. students/teachers and the school), and various systems interactions with other systems (i.e. schools, CAMHs and government agencies). A more practical example of this is illustrated by the findings of Cooper et al. (2016) who analysed factors that help with longer term positive mental health outcomes included interagency understanding co-ordinated by a key named link person. This model of shared responsibility and understanding helps to reduce pressure and individual expectation, but also enables a more holistic vision of need. Noble et al. (2008) provide a useful framework for supporting this more holistic systemic approach in their analysis of effective approaches to supporting student wellbeing. There are clear links between their identified 'seven pathways' (see Table 7.1) to informing student wellbeing and the ideas from the resilience literature outlined in Chap. 2 as to the components that help optimise the resilience of learners.

The opportunity for a more joined up approach based on shared values within a setting which enacts a value system for staff well-being as well as student well-being as part of a wider systemic response has the potential to make a positive impact on not only student health and wellbeing but also that of staff within the setting too.

Conclusion

It would seem that schools now have a sharper focus on the need to support mental health needs in order to promote a mentally healthy and supportive school ethos. The recognition of the personal, social and economic impact of increasing teacher attrition highlights the need for a more holistic and mutually supportive approach to understanding and supporting the rising mental health difficulties reported in both our student and teacher populations. The DIMoR, (ahmed Shafi et al., 2020), offers an analytical tool to explore how, why and what can be implemented and changed at various levels, (individual, systemic and systems within systems) in order to optimise the longer-term outcomes through the development of protective factors to promote mental health and resilience within our school populations. More research is now needed to explore what works at each level with a view to developing more of a

Table 7.1 Pathways (Noble et al., 2008, pp. 9–10)

Pathway	School-based practices
A supportive, caring and inclusive school community	A community that fosters school connectedness, positive teacher-student relationships and parental involvement
Pro-social values	Values such as respect, honesty, compassion, acceptance of difference, fairness, responsibility are directly taught and indirectly encouraged
Physical and emotional safety	Via anti-bullying and anti-violence strategies, policies, procedures and programs
Social and emotional learning	Coping skills, self-awareness, emotional regulation skills, empathy, goal achievement skills, relationship skills
A strengths-based approach	Schools focusing on identifying and developing students' intellectual strengths (eg using a multiple Intelligences model) and character strengths
A sense of meaning and purpose	Through one or more of: spirituality, community service, participation in school clubs and teams, peer support, collaborative and authentic group projects etc
A healthy lifestyle	Good nutrition, exercise, avoidance of illegal drugs and alcohol

https://docs.education.gov.au/system/files/doc/other/scoping_study_into_approaches_to_student_wellbeing_final_report.pdf

holistic and multi-faceted approach to supporting mental health. This focus could consider aspects such as training, specific interventions, raising the profile of learner and teacher voice, psycho-education and policy change in order to become more responsive to the changing needs and risks present within society.

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Chapter 8
Resilience in Practitioners Working in the Field of SEND

Tristan Middleton

Abstract This chapter considers educational settings and proposes that practitioner resilience is an important part of the system and considers its impact on the resilience of children and young people. It discusses the need for practitioner resilience to be a focus and considers factors and approaches which may be key to its development. It discusses this within the context of SEND practitioners and children with social, emotional and mental health difficulties, exploring the connection between education, resilience and the educator. This will focus on the educators' capacities and readiness to work to address affective elements of student learning. The findings of a research study into the impact of working with young people in a Nurture Group setting upon practitioners will be presented. The implications of the findings of this study for practitioner resilience and learner resilience, drawing additionally on the findings of ongoing research by the author, will be considered through the use of the DIMoR (ahmed Shafi et al., 2020).

Foreword

The majority of literature related to practitioner resilience and wellbeing in the field of education refers to teachers (Day & Gu, 2020; Flores, 2018; Jennings, Frank, Snowberg, Coccia, & Greenberg, 2013; Reinders, 2018). Whilst this chapter will make use of literature related to teachers, the 'practitioners' referred to will include both teachers and paraprofessionals working pedagogically in school settings. In particular this includes Teaching or Learning Support Assistants, referred to hereafter as "LSAs", as well as mentors and pastoral support teams. Within schools in England, the LSA and other paraprofessionals play a key role in the education of children and young people and are often significantly involved in working with those who are identified as having Special Educational Needs. There is a disparity between the status and remuneration of teachers and LSAs, which often fails to reflect the

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partnership approach taken between practitioners within individual settings and the term ‘practitioner’ is used to intentionally balance this status and to prompt a greater emphasis in literature on the paraprofessional in schools.

The Central Role of the Practitioner in Supporting Learner Wellbeing

Fleming, Mackrain, and LeBuffe (2013) present the case that teachers are critical in supporting the wellbeing and resilience of learners and, as such, make the case for supporting teacher resilience as something of high importance and needing due consideration by national and local policy makers and leaders. Lei, Cui, and Chui (2018) identified Positive Academic Emotions on the part of the learner as being closely associated to the level of teacher support received. The wellbeing of practitioners and the impact of their personal context is something which some practitioners believe can be hidden or masked through their professional persona or approach. However, the perception and attunement of children and young people to the mood and wellbeing of the practitioner is significant (Glazzard & Rose, 2019) and the impact of the practitioners’ health, wellbeing, emotional state and behaviour is of significant importance (Jennings & Greenberg, 2009; Jennings et al., 2013; Public Health England, 2016; Sanders, Munford, & Liebenberg, 2016).

The importance of teacher wellbeing is more significant when the focus is on learners with identified needs in the area of social and emotional learning. For these learners, there is a heightened importance of positive nurturing relationships (Rae, Cowell, & Field, 2017). In turn, this leads to a need for high levels of wellbeing and confidence on the part of teachers in order to be able to support the wellbeing and resilience of these particular learners (Schleicher, 2018) as these relationships demand significant ‘emotional labour’ (Kinman, Wray, & Strange, 2011).

The importance of wellbeing and resilience in children and young people is significant in the current context of education in England and Europe more widely. Addressing the mental health needs of children and young people is recognised by all EU member states as a priority (Caldas de Almeida et al., 2017, p. 30). The Joint Action on Mental Health & Wellbeing group (2016) identify that 10–20% of children and adolescents worldwide experience mental disorders, which impact on their educational development when untreated. The OECD/EU (2018) identifies that one in six people in 2016, approximately 84 million people across the EU, had a mental health issue in 2016, and that the cost of mental illness for EU countries is more than 4% of GDP. This report also states that half of all lifetime mental disorders begin by the mid-teens.

Impact of Negative Practitioner Wellbeing

It may seem obvious to state that negative practitioner wellbeing can impact on the individual practitioner's own work performance and family life (Hyman et al., 2011), however in the context of a profession where an attitude of keeping going until the next holiday is often evident, this perspective is important to remember. If we understand that relational safety in classrooms is supportive for students at risk of school exclusion or dropout (Sanders et al., 2016), then it is clear that negative practitioner wellbeing will also negatively impact on learners' engagement within schools. The negative impact of practitioner stress and burnout on learners' social and academic development is well documented (Fleming et al., 2013; Hoglund, Klingle, & Hosan, 2015) along with evidence of the correlation with the deterioration of teacher-learner relationships (Cano-Garcia, Padilla-Munoz, & Carrasco-Ortiz, 2005) and increased levels of conflict and difficult behaviours in learners (Bru, Stephens, & Torsheim, 2002). Furthermore, there is evidence that positive relationships between the practitioner and their learners can also support the positive wellbeing of practitioners (Milatz, Lüftenegger, & Schober, 2015).

Practitioner Wellbeing

The need to support teacher wellbeing is recognised on an international scale. In the UK, it has been recognised that teaching is a profession with a significantly higher level of work-related stress than other professions (HSE, 2017). Some reports indicate that up to 40% of teachers have left teaching within five years of joining the profession (Acton & Glasgow, 2015). There is growing concern about the rate of teachers leaving the profession, and particularly those new to the profession. Increasingly, in school systems across Europe and other developed countries, the extent of teacher attrition and turnover is cause for concern, particularly in relation to teachers who are in the early stages of their career (Avalos & Valenzuela, 2016). In England there are reports of a significant increase, of nearly 30% in one year, in teachers contacting a confidential helpline (Education Support Partnership, 2018).

The policy and guidance discourse related to adult wellbeing is firmly embedded within a workplace perspective. Notions of linking adult learning and social and emotional learning is generally discussed within the realm of skills for work and professional stress, with the focus being on the responsibility of business to provide for these areas. Whilst there is some reported development in social prescribing (Steadman, Thomas, & Donnaloja, 2017), although frequently related to vocational opportunities, there is little other support for the development of social and emotional wellbeing in adults on the part of local or national agencies beyond the management of workplace stress, through approaches such as time management, relaxation approaches and exercise (NHS, 2019).

The Case for Practitioner Resilience

In order to understand the importance of practitioner wellbeing and the centrality of the social and emotional impact of their work, it can be useful to understand the concept of 'emotional labour'. Emotional labour is described as the work undertaken to manage ones' own emotions in order to influence the production of a particular state of mind in others (Hochschild, 1983). Emotional labour is embedded in the work of the education practitioner and particularly in their support for social and emotional learning (Brown, Vesely, Mahatmya, & Visconti, 2018) and the relationships they maintain in order to do this. There are identified links between emotional labour and teacher burnout (Keller, Chang, Becker, Goetz, & Frenzel, 2014).

Working within educational settings can be viewed as existing in a wicked context, in that it is situated within a complex social organisation where there are no clear, linear, or cause and effect, solutions which can be applied from generalised principles (Middleton, 2019). Where the aim of practitioners is to develop the learners in a holistic way, with particular concern for social and emotional learning and resilience, practitioners can be seen to be at odds with the dominant ethos embodied by national policies, guidance and local and national inspection regimes, which are expressed through a normative ethos of achievement and measurement within a standards agenda (Middleton, 2019). Given the holistic, inclusive and developmental nature of the nurture group approach (discussed below), practitioners working in this field are likely to be more significantly impacted by this wicked context. Whilst it is recognised that there is an absence of focus in literature or policy on the development of practitioner capacity for resilience (Hart & Heaver, 2013), it can be argued that the need for the promotion of nurture group practitioner resilience presents an even more pressing case than for the general, mainstream practitioner.

The DIMoR presents resilience as a dynamic process which enables the individual, or wider system, to function and continue on their trajectory (ahmed Shafi et al., 2020). For the nurture practitioner, resilience factors are of heightened importance in the context of their work which is problematic in relation to the wicked context of an education system focussed on the normative, right/wrong, binary approach (Middleton, 2019, p. 3).

Summary of Research Study

This chapter uses the DIMoR (ahmed Shafi et al., 2020) to analyse the findings of a research study into the personal and professional impact of working with children with identified needs in the area of Social, Emotional and Mental Health, in a Nurture Group context (Middleton, 2018).

Nurture Groups were first established in England in 1970s and there are now over 2000 recorded Nurture Groups in the UK (NurtureUK, 2019b), with other pockets

in existence in Ireland, Malta and Romania, as well as some further afield in New Zealand and Australia.

Nurture Groups are the most intensive and specialised tier of support within the taxonomy of the graduated stages of Inclusive Nurturing Practice (NurtureUK, 2019a) which are based upon the work of Bennathan and Boxall (1996). The foundational tiers of this graduated approach, applied across a whole-school, are the assessment of children and young people's social, emotional and mental health needs using the Boxall Profile (Bennathan, 1998) and a nurturing approach based upon the Six Principles of Nurture (Lucas, Insley, & Buckland, 2006). Through a focus on social and emotional learning at a developmentally appropriate level, nurture groups are an approach which provides the opportunity for children and young people to engage in learning opportunities and can help to maintain children and young people at risk of exclusions within school (March & Kearney, 2017). In practice, a nurture group is an intervention where learners who are identified as needing additional support for their social and emotional needs, attend the group on a regular basis over an extended period and are supported to develop developmentally appropriate skills to enable them to work towards learning effectively within their mainstream class context.

This research study used a narrative inquiry approach (Alleyne, 2015) to understand the professional and personal impact of working with children with Special Educational Needs (SEN) in the area of Social, Emotional and Mental Health (SEMH) difficulties. The English definition of SEMH difficulties superseded previous definitions of Social, Emotional and Behavioural difficulties (SEBD), and other combinations of those key terms, with the advent of the Special Educational Needs Code of Practice (DfE, 2015). This research study focused on the experiences of two Learning Support Assistants running a nurture group in a mainstream primary school, gathering their stories over the period of a school year.

The study identified that the nurture group practitioners' work with young people with SEMH difficulties had a significant impact on their professional identity, motivation and relationships within their place of work and also on their family and personal relationships, their leisure time and their physiological wellbeing. Further outcomes of the research provided information about factors which the practitioners identified as having the most significant impact on the areas identified above.

The research found that there were three key elements which illustrate the challenges of working with vulnerable learners linked to the practitioners' professional and personal lives. These three elements were; motivation, physiological impact and impact upon personal life and relationships.

The research also identified that the key events which impacted upon the practitioners' wellbeing, were related to two key groups; the children and young people they worked with in the nurture group setting, and the school management team.

Further findings related to factors which the practitioners identified as supporting them to continue their work with the children and young people. These were identified as three key factors; their own values and commitment to 'nurture', the friendship of their colleagues and leadership within the setting. They also identified that the year-long process of discussion and supervision, undertaken as part of the research process, gave them a sense of strength and empowerment.

Using the DIMoR to Analyse the Findings

This section will use the DIMoR (ahmed Shafi et al., 2020) as a lens through which to consider the findings of the research with educational practitioners. It will identify the risk and protective factors, the vulnerabilities and invulnerabilities, alongside the key individuals and groups with which the practitioners interacted. This will provide a picture of the relevant factors in considering the resilience of these practitioners and offer the opportunity to consider the focus of support to foster the practitioners' resilience in their work to support the wellbeing and resilience of children and young people.

The DIMoR recognises individuals as systems encountering each other within a wider system (ahmed Shafi et al., 2020). Within the systemic context and using Ungar's (2013) recognition of equifinality and differential impact, the research identified two groups which influenced the practitioners' wellbeing most significantly.

The first of these groups was the children they worked with in the nurture group setting. These children, who have been identified on the school Special Educational Needs Register as needing additional and different provision in order for them to be able to engage in learning activities in the school, often presented with physically and emotionally challenging behaviours. Their behaviours could often be emotionally distressing to the practitioners, in that they both represent the effect of trauma and very difficult life experiences for the children, which the practitioners empathise with, and that the behaviours can also present direct social and emotional challenges to the practitioners and demand significant emotional labour. Whilst some elements of the groups' identity and behaviour are perceived as being towards the 'risk' end of the DIMoR axis, their own vulnerability and need for support could be perceived as contributing as a protective factor within the DIMoR (ahmed Shafi et al., 2020), as the practitioners felt they were fulfilling a much-needed and valuable role in enacting supportive provision which the children may otherwise not be able to access. It is difficult to clearly position the impact of the children on the practitioner's vulnerability/invulnerability axis, as the empathic approach taken by nurture practitioners, whilst creating elements of vulnerability, also promotes invulnerability through the positive affective relationships and the enactment of support which are associated with the empathic approach.

The second of the groups was the school management team, a group which is identified as a key contextual influence in the recent Ainsworth and Oldfield (2019) study. This group exerted influence over the practical and organisational aspects of the practitioners' work and also influenced the practitioners' affective, or emotional, states through the nature and content of their direct interactions with the practitioners and also the influence they had in guiding, managing and mediating the opinions and interactions between the practitioners and other school staff. The management team can be regarded as a mesosystem and there is potential for the management team to impact widely across both of the axes of the DIMoR (ahmed Shafi et al., 2020) and the practitioners identified changes in the management team's attitude and discourse as having a negative impact.

Whilst these two groups were identified as the major systems impacting upon the practitioners, using the DIMoR web of connectivity (ahmed Shafi et al., 2020), it can be understood that other groups, or systems, will also be connected with, and influential upon, the practitioners and upon the two systems of the children and the management team. For example, the management team will be influenced by a range of professional and personal systems, including other practitioners, parents and carers, different learners in their setting, professional networks, family and friends. Any consideration of making changes within the two identified groups would need to consider the impact upon, and from, the other systems they are connected with or encounter more widely.

The second set of findings of the research was the factors which the practitioners identified as providing them with the strength to continue in their work to support the children in their nurture group, in spite of the significant impact of the work on their personal and professional lives.

The first of these was their commitment to their strongly held values about the importance of nurture in education. The practitioners would identify this as a protective factor on the DIMoR axes (ahmed Shafi et al., 2020), however holding strong values could be situated on the axes in a number of places, according to the context. Given the dominant policy ethos, as described above, holding strong alternative values could be identified as being located within the vulnerability section of the vertical axis. Contextual factors such as the ethos of the other practitioners within the community, or system, and the mesosystem of the management team will, as an example of equifinality (Ungar, 2013), influence the impact on the resilience of the practitioners.

The second factor was the friendship of their colleagues. This would be a protective factor on the DIMoR axis (ahmed Shafi et al., 2020) within the immediate context. This factor could move to the other axis as a vulnerability if there were a threat of the colleague leaving the setting. Once the colleague has moved, the lack of a colleague with whom a friendship was established would then be situated as a risk factor.

The third factor was identified as leadership. This concept is one which has multiple understandings and is reliant on the context of the individual and their own view and expectation of leadership. If the enactment of leadership is aligned with their own conception of the term, it is likely that the practitioners would identify leadership as a protective factor (ahmed Shafi et al., 2020). If, however, the leadership was in contrast to their own values and views, perhaps as a result of a change in personnel or external pressures forcing a change in approach, the leadership could be identified as a risk factor, creating vulnerability.

A final emergent finding from the research was that the process of the research itself was a useful empowering factor for the practitioners. As part of the research process the practitioners were provided with a form of regular supervision, in the form of a safe, confidential, supportive space in which to reflect on their practice and in frank and open discussion and explore, sometimes difficult, situations (Middleton, 2018). The availability of this resource would be situated as a protective factor. The conclusions of the research also suggested that this factor was more significant because of the particular history of the researcher, as a previous nurture group teacher,

and the resultant understanding between the practitioners and researcher. This context can be identified as a further example of Ungar's (2013) notion of differential impact and cultural moderation.

Through the use of the DIMoR (ahmed Shafi et al., 2020), in the context of this research into nurture group practitioners, the initial conclusions have been re-evaluated and the dynamic and interconnected nature of the factors, which were identified through the research, has been emphasised. This has led to important conclusions relating to the potential for significant change in the influence of these factors as a result of personal and professional interactions and wider contextual relationships (Acton & Glasgow, 2015) and the dynamic nature of the emergent properties of resilience.

Resilience and the Practitioner: Conclusion

When seeking to influence the resilience of practitioners, the use of the DIMoR has clarified that any approach which aims to make changes to one isolated factor is unlikely to have a significant impact on the overall resilience. Using the axes of the DIMoR (ahmed Shafi et al., 2020) has demonstrated that where changes to resilience are desired, consideration of the interconnected systems, of the contextual influences and of the relationships within the systems, are all elements which need to be considered. The potential for factors to move along the axes of risk/protective factors and vulnerability/invulnerability has been demonstrated, thereby reinforcing the dynamic nature of emergent resilience.

This use of the DIMoR (ahmed Shafi et al., 2020) has highlighted that where attempts are made to improve the wellbeing and resilience of children and young people in educational settings, the wellbeing and resilience of the practitioner is closely connected, as is argued by Fleming et al. (2013, p. 388), and can reciprocally promote emergent resilience. Furthermore, this chapter has highlighted, in alignment with Banerjee, McLaughlin, Cotney, Roberts, and Peereboom (2016), the importance of leadership and the school organisation and ethos, within the context of the wider influences from local and national educational systems.

The role of relationships, and consequently social and emotional competencies, have also emerged as important factors within the holistic view of resilience, as identified in the argument of Masten and Garmezy (1985). The transient nature of relationships within educational settings has further emphasised the potential for change within resilience outcomes.

This emphasis on the dynamic and interactive nature of emergent resilience and the importance of relationships within the interacting systems supports the challenge that interventions aimed at teaching specific approaches or resilience skills are unlikely to have significant success. What may be more effective instead is the promotion of wellbeing and resilience for practitioners and the promotion of a holistic understanding of the complexities of interconnectedness and the understanding of the axes of risk/protective factors and vulnerability/invulnerability.

The dynamic and interactive qualities of resilience, as conceived through the lens of the DIMoR (ahmed Shafi et al., 2020), aligns with current reassessments of pedagogy and learning. Biesta's (2016, p. 27) view of learning as, "a response to what is other and different, to what challenges, irritates, or even disturbs us" is closely aligned to Masten's (2016, p. 298) view of resilience as, "the capacity of a system for successful adaptation to disturbances that threaten system function, viability or development". These perspectives support the view that by understanding of the interconnected systems and the risk/protection and vulnerability/invulnerability axes, individuals can learn to develop their capacity and potential for resilience within the connected systems in which they exist.

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Chapter 9
Using Assessment Feedback to Develop Resilience

Richard Millican, Adeela ahmed Shafi, Sian Templeton, and Tristan Middleton

Abstract This chapter draws on research which focuses on the everyday challenges in academic learning and argues that academic buoyancy (Martin & Marsh, 2009) is a key factor in academic success as it helps students cope with setbacks such as receiving a disappointing grade. The chapter will discuss the idea that assessment feedback offers an opportunity to contribute to student academic buoyancy. To scaffold students learning and thus to effectively support academic buoyancy, an argument will be posited that there is a need for a better understanding of (i) what students find most and least useful in their assessment feedback; (ii) how students use feedback to approach future assessments and; (iii) how students respond to feedback in terms of what they think, feel and do. 5 Key indicators of academically buoyant behaviour (which arose from the research under discussion) are suggested to increase the academic buoyancy of students and also the need for tutor/student relationships and opportunity for dialogue. Finally, using the DIMoR (ahmed Shafi et al., 2020) as a framework for analysis, the chapter will argue that individual events such as assessment feedback, need to be considered more holistically taking account of the effect they can have on other stakeholders and other interacting and surrounding systems.

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Introduction

This chapter draws on research conducted by the authors at a UK university that suggests there is a link between feedback given in response to assessments and resilience. The study was a piece of action research designed to improve the usefulness of feedback given. Findings demonstrated that students often experienced uncomfortable and challenging emotional reactions to feedback and grades received, which led to explorations of the notion of academic buoyancy. It revealed the opportunity that the feedback process provides to help develop buoyancy and illustrates how things are interconnected and how there is a need to view feedback within a wider context rather than as an isolated act.

The chapter will begin by discussing assessments and feedback as concepts to provide context. It will then give an overview of the research design and findings before providing a discussion that presents a conceptualization of the feedback process that situates it in a course context.

The findings will then be discussed with reference to the Dynamic Interactive Model of Resilience (DIMoR ahmed Shafi et al., 2020) showing how it can be used as a helpful lens with which to analyse the feedback process and to reflect on the resilience of the systems and actors involved.

Context

A common facet of educational programmes in formal contexts is the need for assessments. These may be initial or end point, diagnostic or placement, formative or summative, but in all cases will involve judgement of learners' work or performance against certain criteria or in comparison to others. Recent accountability initiatives and the marketisation of educational systems has meant that, in some cases, the results of these assessments are used to not only measure the learner, but also as an indicator of educator and institutional performance. This is no less true for universities that are increasingly ranked in league tables against various indices including The Teaching Excellence Framework (TEF), National Student Satisfaction Survey (NSS) results and the number of higher degree classifications.

Given this, the grading and providing of feedback on assessments is a high stakes activity. It can determine not only whether the learner succeeds or not on a programme, but can affect their feelings and emotions about themselves and the course, as well as their feelings towards the markers and teachers of the course and the institution offering it. As a consequence, it can influence evaluations given and have an impact on the status of all those involved. As a result of this, it is important that the process is carried out as effectively as possible to ensure that it is of value and use to all stakeholders involved whilst simultaneously protecting their wellbeing and reputations.

Typically, there are two elements provided in response to an assessment, the grade itself which is a statement of level or achievement, and feedback which provides a justification for the grade alongside indications of how to improve. Even within formative assessments contexts, this would render the grade as summative in nature (a summation of level at that moment) and the feedback as formative (information about performance and areas for improvement).

If feedback is providing information about performance and offering suggestions for development, then comments made need to be individualized, or personalized and targeted and arguably can be considered as part of a conversation, a dialogue between marker and learner. It has been suggested that, given this potential for feedback to provide opportunity for learning, it is more pertinent to consider it as *feedforward* (see, for example, Higgins, Hartley, & Skelton, 2002; Wheatley, McInch, Fleming, & Lord, 2015). Jonsson (2012, p. 63) goes as far as to describe feedback as 'one of the most potent influences on student learning and achievement'.

However, not all students use their feedback or do so effectively and Jonsson (2012, p. 64) argues that there is a place for explicit teaching on how to utilise feedback to optimise impact, suggesting that many students fail to read or use feedback given. Such a lack of engagement with feedback potentially leads to a significant impact on performance (Zimbardi et al., 2016) as a developmental opportunity is lost. In contrast to this, studies have shown that some students *do* use it for guidance and learning (McCann & Saunders, 2009) and it would appear useful to explore why this is the case for some and not for others.

One reason is that, for it to be effective, it is necessary for the learner to be able to interpret and understand the grade and feedback given within the context of the assessment purpose, assessment criteria and grading. Research has revealed that students can sometimes be confused by the assessment process and are not always fully cognisant of task expectations or of how grading criteria are applied. As a consequence, recent literature has suggested that to support the efficient use of feedback, students need to have what has been termed assessment literacy (see, for example, Ajjawi & Boud, 2017; Carless, 2016; Denton & McIlroy, 2017; O'Donovan, Rust, & Price, 2016; Price, Rust, O'Donovan, & Handley, 2012).

However, mindful of the fact that grading and feedback are based on a deficit model where a perceived expert makes a critique and a judgement of quality and standard (Delandshire, 2001), they have the potential to cause emotional upset. For many learners, such judgements are unexceptional events that occur during their educational journey, while for others they can be quite damaging (Poulos & Mahoney, 2008). When this is the case, it can affect the learner's motivation, self-esteem and attitude towards the course, marker and institution offering it and it can also partly account for the discrepancy highlighted above, between those learners who use feedback effectively for developmental purposes and those that do not.

Concerns about the ability to deal with such potential upsets or shocks to the system and respond in a constructive way to feedback by using it developmentally, lead to considerations of an individual's resilience (Wang & Gordon, 1994; Wang, 1997). However, given that resilience tends to refer to the ability to deal with more substantial adversity and challenges such as a family bereavement or a major health

issue, Martin and Marsh (2008) suggest that a more specific form of resilience for this type of setback is academic buoyancy. This is more nuanced and targeted and is defined as a student's ability to deal with academic challenges such as poor grades, meeting deadlines, or coping with exam pressure and, in addition, coping with the unhelpful emotions associated with some of these challenges (Bouteyre, Maurel, & Bernaud 2007).

Carless (2006) observes that students who are more secure in themselves and in their academic ability and thus are less vulnerable and have more protective factors, tend to be more able to cope and to be receptive of feedback, whereas others are likely to find that it impacts on their self-concept and motivation. Consequently, he suggests that part of the function of feedback is to help students deal with their emotions and self-regulate, in other words to be academically buoyant, and notes that more successful learners tend to be those who have this buoyancy and are autonomous and able to use their feedback to develop self-regulated learning skills.

Research Phase 1

The research was conducted because the course team of a BA (Hons) Education had noted that, in a number of student evaluations, dissatisfaction was expressed around the topic of assessment and feedback. Given this, and mindful of the context as described above, the team undertook an action research project to explore student thoughts about feedback and to search for ways to improve practice.

Findings from Phase 1

Responses from the first phase (see ahmed Shafi, Hatley, Middleton, Millican, & Templeton, 2017 for more details) shed light on student activity and show that they use their feedback more than the researchers anticipated and in a variety of ways, including to develop writing skills as well as to improve content knowledge. They also demonstrated different patterns of behaviour ranging from returning to the feedback when working on a new assignment, seeking tutor advice or other support, making a plan for future assessments and taking notes for future reference. This was encouraging as it indicated that students acknowledged and were keen to exploit the learning, feedforward potential of the feedback and was thus evidence of resilient or buoyant behaviour.

The data also showed that students felt that feedback helped them manage their feelings following a disappointing grade when it provided information in terms of how they performed, by acknowledging strengths and providing reasons for the grade given, suggesting actions they might take next and giving reassurance and encouragement.

Further mining of the data led to the identification of five specific behaviours, the Key 5 (ahmed Shafi et al., 2017), which were evidence of students responding to the feedback in effective ways that helped them manage their emotions thus contributing to academic buoyancy. These were: (i) an internal locus of control - where students saw the assessment as their responsibility rather than placing blame elsewhere e.g. on the lecturer, marker, university or other external circumstance; (ii) understanding the grade - where there was a recognition as to why they received the grade and feedback that they did with relation to the task and criteria; (iii) looking forward—where the student saw the assessment as part of a longer journey and a stepping stone towards the next assessment or stage of learning; (iv) being improvement focused—where students were keen to identify how they could learn from the feedback and develop; and (v) action-orientated behavior—where they were proactive about taking steps to develop in response to feedback given.

The first phase of the research thus illustrated that our students were using the feedback more than we thought and in a variety of ways as feedforward, but also to help them manage their feelings and emotions on receipt of a disappointing grade. Zimbardi et al. (2016) had linked disappointing grades to strong emotional responses, but our research suggested that even if the initial reaction to the grade was uncomfortable and challenging and a threat to their resilience, feedback could help them deal with this response and support the development of academic buoyancy through the adoption of behaviours that were indicators of academic buoyancy.

Implications for Practice

This led to the conclusion that appropriately structured feedback that can help develop academic buoyancy (Martin & Marsh, 2008) and support the development of self-regulation (Carless, 2006) would appear to be the foundation of effective practice, as it would enable students to deal with grades that are lower than expected by encouraging and nurturing constructive strategies and behaviours.

Such constructive behaviours, as identified above, seemed to be the Key 5 (ahmed Shafi et al., 2017):

(1) Internal locus of control
(2) Understanding the grade
(3) Being forward looking
(4) Being improvement focused
(5) Being action orientated

Consequently, it would seem that effective feedback is that which:

a. Clearly recognises effort and achievement and encourages the student to take responsibility for the work and the grade given, rather than look for external reasons and excuses

b. Provides a clear indication of why the grade was given against explicit criteria and grade descriptors
c. Makes reference to the fact that the assessment does not stand alone, but is part of a longer journey
d. Provides concrete suggestions as to things that could be developed and improved in future assessments
e. Makes suggestions as to actions that could be taken to assist these developments and improvements

Given the positioning of the study as action research, the results led to three changes to practice. Firstly, to explicitly teach the concept of academic buoyancy and the five indicators of buoyant behaviour in a first year (level 4) skills module. Secondly, to adopt a redesigned course template for assessment feedback that provides: tighter shaded grade descriptors against each criterion; positive comments highlighting what was done well; an explicit section for recommendations that are encouraging and provide concrete points for development and suggestions for actions to help students improve; the grade; and a section for student-devised action points. Thirdly, to ask students to share and discuss resulting self-devised action points in personal tutor meetings.

Research Phase 2

The three changes to practice were trialled the following year on the BA Education course and then students' thoughts and opinions were collected (see ahmed Shafi et al., 2020) guided by three research questions.

(1) Do students find input on academic buoyancy and the Key 5 indicators useful?
(2) Do students find the redesigned feedback sheets useful?
(3) Do students find it helpful to discuss their action points in personal tutor meetings?

Findings from Phase 2

Findings were interesting and helpful. Responses indicated that students did find the concept of academic buoyancy useful and appreciated the input on the Key 5 indicators. They said it gave them a frame of reference as to what to do in order to respond constructively on receipt of a disappointing grade and made them more aware of the fact that it is not unusual to have an emotional response.

Reaction to the redesigned feedback sheets was also positive with students appreciating the strengths-based comments and valuing the suggestions for improvements as they helped them move away from the disappointment in what *was*, towards thinking forwards to what *might be possible.*

The majority of the respondents also found the identification and subsequent discussion of action points with their personal tutor of use. This process again helped students focus on the formative nature of the feedback and to think of an assessment as a learning opportunity.

Two new themes that emerged from the data were to do with relationships and personal attributes. Students stated that good relationships with tutors helped them deal with the emotional responses to grades and feedback and engage in discussions around their performance in the assessments and their feelings towards feedback given. They stressed the need to feel that they could trust tutors and could approach them for support and guidance and feel 'safe'. In addition, the characteristics and attributes of the students themselves were recognized as having influence as it was acknowledged that, for example, levels of determination and motivation had an impact.

Implications for Practice

Although the focus of this second phase was not directly on the emotional response, once again it emerged as having an impact on how students react to feedback. Fong et al. (2016) indicate that it is important for tutors to understand the emotional impact of feedback and how they can endeavour to ensure it is constructive (Pitt & Norton, 2017). It appears that the changes to practice implemented may help students deal with challenging emotional responses and contribute to students developing greater self-regulatory measures (Carless, 2016) and thereby increasing their academic buoyancy.

As mentioned, the findings also highlighted that part of the buoyancy to deal with disappointing grades comes from student relationships with tutors and indicated how these need to be nurtured and can be assisted through dialogue relating to feedback and a transparent assessment process. Personalised feedback and student devised action points for discussion at personal tutor meetings went some way to achieving this and suggest the need for further exploration as to ways of increasing opportunity for student/tutor dialogue and developing trust.

Findings relating to the role of individual student attributes in response to feedback adds to the work of Higgins et al. (2002) and Pitt and Norton (2017) and emphasise the interplay between self-efficacy, emotional maturity and motivation. It positions the student as a central feature in how feedback is received and interpreted and reinforces the need for personalization and dialogue throughout the feedback process.

These findings led the authors to two proposals and a new model of academic buoyancy that incorporates these factors and helps re-conceptualise feedback practice (see ahmed Shafi et al., 2020).

The first is to reinterpret indicator (ii) of the Key 5 indicators of academic buoyancy (understanding the grade) as 'assessment literacy' (Ajjawi & Boud, 2017; Carless, 2016; Denton & McIlroy, 2017; O'Donovan et al. 2016; Price et al., 2012). Reflecting further on the data from phase 1 in the light of literature and the second phase, it

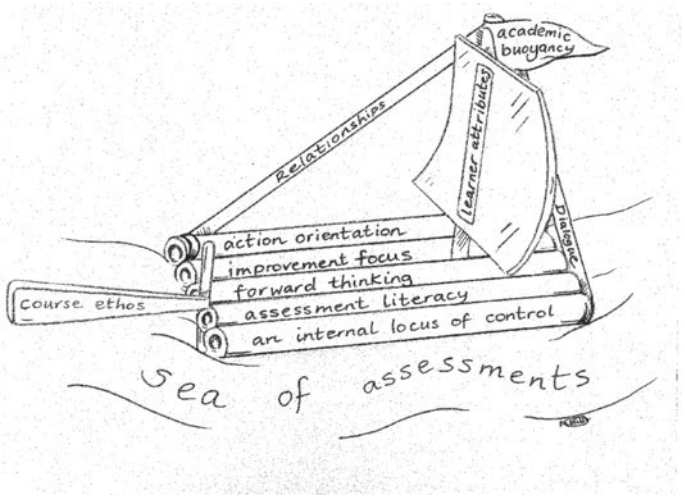

Fig. 9.1 The 'raft' of academic buoyancy

was felt that this was more apt. Assessment literacy more accurately and comprehensively captures the broader aspects of understanding the grade to include interpreting assessment and feedback within the context of its purpose, the assessment criteria and the grading.

The second is, given the findings around student attributes and the need for relationships and dialogue that build on the work of Ajjawi, Molloy, Bearman, and Rees (2017), Steen-Utheim and Wittek (2017) and Yang and Carless (2013), to propose that the 5 (revised) key indicators of academic buoyancy should be underpinned by a course ethos that values and nurtures the relationship between student and tutor, provides opportunities for dialogue about work in general and feedback in particular and treats the learners as individuals, recognising their attributes.

This leads to an adapted model of 'The Key 5 (revised) indicators of academic buoyancy **plus** 2' referring to students showing: (i) an internal locus of control, (ii) assessment literacy, (iii) forward thinking, (iv) an improvement focus, (v) action orientation **plus** being situated within a course ethos that (1) values relationships between student and tutor and (2) provides opportunities for dialogue about feedback and academic progress which recognise the students' attributes and personalises the process. This should, as Ajjawi and Boud (2018) suggest, take account of the cognitive, socio-affective and structural dimensions and shift feedback from being *hopefully* useful to something that *is* useful.

The diagram below illustrates the relationship between these factors by visualising the learner remaining buoyant in the 'sea of assessments' on a 'raft' they have constructed from the Key 5 (revised) indicators of academic buoyancy, with a mast of their attributes supported by relationships and opportunities for dialogue and steered by the course ethos as they sail towards academic success (Fig. 9.1).

As the second phase of an action research project, these results have led to further planned changes to practice: developing student understanding of academic buoyancy more regularly across the levels (year groups); highlighting the distinction between the *non-personal*, summative, process of grading of assessments and the *personal*, formative nature of feedback that takes account of individual attributes; explaining the rigour behind the grade; providing additional opportunities for dialogue around the feedback; and adding activities that can help build relationships and trust between tutor and student.

Further Discussion with Reference to the DIMoR (ahmed Shafi et al., 2020)

As a routine part of education processes, the act of assessing and providing grades and feedback can easily be treated as an isolated, mechanistic, stand-alone activity that just focuses on the assessment and feedback process itself. However, such an approach is in danger of disregarding the individuals and stakeholders involved and the complexities of the context and systems in which they function.

A dominant theme to emerge from the research highlighted above was the emotional impact that grades and feedback can have and how (a) the degree of this emotional response varies from individual to individual and (b) ways of dealing with the response vary between being stuck in an unhelpful mindset and externalizing the blame and taking a more positive, proactive response that views the feedback as a learning and developmental opportunity. Therefore, in order to make feedback useful, it is important to be mindful of the potential emotional impact it might have and to strive to find ways of helping recipients deal with any unhelpful emotions and turn the experience into a constructive one.

The use of resilience and in particular academic buoyancy as concepts helped explore this as they provided a lens through which to examine the ways that students were able to cope with any challenging emotional responses and aided the identification of the Key 5 behaviours that seemed to assist them deal with the response and move on from disappointment. The concept of resilience also revealed broader influences of individual characteristics and the importance of trust and relationships with tutors and the role of dialogue in facilitating this.

In no sense was there the idea that an individual's response to feedback would be the same on each occasion or that it was fixed. Rather, student responses were contextual and changed as they progressed through the course and thus moved temporally and spatially as they interacted and responded to different events and factors and developed as a person.

Traditional views of resilience were to think of it as something that an individual had, a quality or a capacity. More recent conceptualisations however, view it as something that is on a spectrum (see, for example, Daniel, Wassell, & Gilligan 1999) and built up from two axes. One considers resilience as influenced by personal

qualities and traits against vulnerability caused by personal circumstances. The other weighs protective factors such as a close friend, against adversity—the threats to self.

However, whilst helpful, this view did not appear to take account of the more dynamic nature of resilience, acknowledging that individuals and their responses would change and that they were interacting with, and simultaneously affecting, others in the process of interacting. In other words that individuals, or systems, involved in an interaction have a reciprocal relationship.

Ungar's perception of resilience as a process and one that is dynamic and interactive (2013) alongside Rutter's view (2013) that we need to develop strategies in response to challenge and risk, was more useful as it provided place for the Key 5 indicators. It recognized that resilience or academic buoyancy is something that changes and seemed to accept that it could be more about process (utilizing the Key 5, engaging in dialogue, trusting others) than product (something we either have or do not have). This sense of movement, or development, was also reflected in Masten's work (2016) that suggested that the ability to cope comes in part through exposure to challenge, risk and adversity i.e. by having to respond to disappointing grades and feedback.

Further reflection on the research though suggests that, as a model of resilience, this perception of resilience is still incomplete. Personal attributes emerged as an influential theme and, alongside action orientation, link to Downes' (2017) point about agency. As individual students, they have their own attributes and their own agency and, as they interact with feedback, markers, tutors, classmates etc., they are not reverting back to the same place or bouncing back to as they were (Dent & Cameron, 2003), but changing and being changed as a result of each interaction with each aspect of the assessment and feedback process.

In addition, the research alluded to the broader context of grading and feedback processes—tutors, markers, course, university and societal structures of league tables and satisfaction surveys. Taking a systems approach allows one to explore feedback and a student's reaction to it in a more holistic way that recognizes the individual as a system within other systems. This builds on the ecological model of Bronfenbrenner (1979) and subsequent developments from Ungar (2013) that acknowledge the complex and multiple interactions that occur not just between neighbouring systems, but across and between systems.

Incorporating Morin's complexity theory (2008) attends to the fact that from these dynamic interactions between systems, things will emerge e.g. not only student academic buoyancy, resilience and learning, but new processes, systems, strategies and relationships as each system adapts in order to respond to disruption in, and to, its environment and also to protect itself. Examples of this linked to this research are: the redesigned feedback sheets that help with student self-regulation and understanding of the grade; the workload allocation models that serve to protect the marker by placing a boundary around the amount of time they have to mark and provide feedback; personal tutor guidelines and protocols that facilitate discussion of student devised action points in response to feedback; student representative systems designed to capture the student voice early and preempt and mitigate against student dissatisfaction with assessment and feedback processes; and mental health

and wellbeing teams to support students when they are not coping well with grades and feedback given.

Combining these various elements, the Dynamic, Interactive Model of Resilience (DIMoR ahmed Shafi et al., 2020) helps with an analysis of the feedback process by considering the student as an individual within a complex system. It recognises that the emotional responses to feedback, and the usefulness of the feedback in helping the student deal with it, is in itself a dynamic and interactive process that will influence and impact jointly and severally the systems and stakeholders involved.

Using the DIMoR (ahmed Shafi et al., 2020) as a lens through which to examine the usefulness of feedback encourages the placement of the student at the centre of the process and recognizes the factors that might affect the student's ability to be able to deal with disappointing grades and feedback. It then accepts that student resilience is something that emerges as a result of the interactions that occur between these factors. In turn it then acknowledges that other systems could be affected by the interactions with the student through the feedback process (see Fig. 9.2).

This allows for a more complete, complex and nuanced picture of the feedback process that acknowledges that, when considering its usefulness, it needs to be considered from a broader perspective that takes account of the other systems involved.

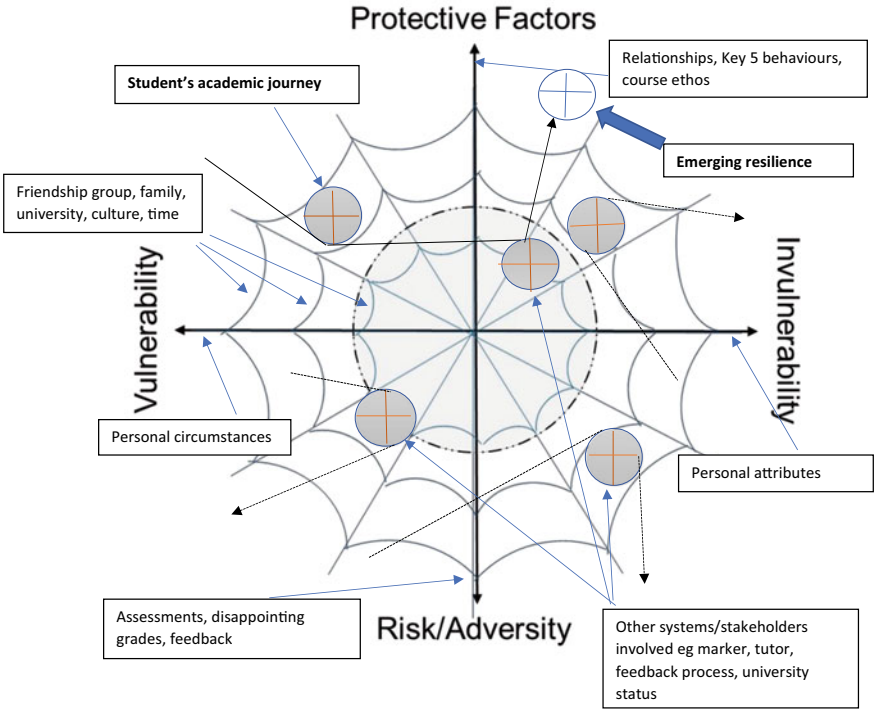

Fig. 9.2 The DIMoR (ahmed Shafi et al., 2020) as applied to assessments

Overall Implications

The Dynamic, Interactive Model of Resilience (ahmed Shafi et al., 2020) helps to serve as a framework for thinking about resilience, but also as a reminder to consider events such as feedback and the individuals involved within such an event, more holistically and from a systems perspective.

In pursuit of efficiencies, it is perhaps easy to take a reductionist approach and focus on the act itself, losing sight of the actors and other stakeholders involved. In this case, it would be possible to simply consider the efficient production and delivery of the grade and feedback without taking account of the humans involved, or their possible emotional reaction to any disappointments. A more holistic analysis allows thought for, and attention towards, individual attributes, stage of learning journey, tutor/student relationships, broader support structures and protective strategies alongside contextual structures and policies e.g. personal tutor guidelines and protocols, feedback processes, workload allocation and student voice mechanisms.

Reflecting on the research cited at the start of this chapter in the light of the DIMoR (ahmed Shafi et al., 2020) leads to thoughts about the research design. The initial design was focused on what students find most and least useful about feedback, how they use feedback and how they respond to feedback. In other words, it viewed feedback as something static and then focused on the students as recipients of the feedback and explored their reaction. As it happened, this led to thoughts about resilience and thereafter, inductively, to broader considerations. However, use of the DIMoR (ahmed Shafi et al., 2020) as a lens at the start of the research may have prompted a different research design whereby more immediately the impact of assessment feedback on the resilience of individuals was considered from a systems perspective, with thoughts for example of the interactions between markers/tutors and the students, between the design of the process and the stakeholders involved, between the emotional responses and student satisfaction and NSS responses, between workload allocation models and feedback quality and between personal tutor protocols and tutor/student relationships. In other words, the DIMoR (ahmed Shafi et al., 2020) may have helped the research search for the complexities within the feedback process and look for evidence of emergence of learning, development *and* resilience.

Conclusion

This chapter provided an overview of a research project that was undertaken with a cohort of undergraduates taking a BA Hons Education in a UK university. The project was designed to explore ways of making the assessment feedback process more effective and useful. In the process it highlighted that many students have uncomfortable emotional responses to disappointing grades that can be destructive and unhelpful. It also highlighted that students use feedback more than was anticipated by the tutors for content and writing support, but also to help them manage their emotions.

This led to thoughts about resilience and, more specifically, academic buoyancy and ways to help students develop the ability to cope with emotions during the feedback process in order to use it more constructively as feedforward. The Key 5 indicators of academic buoyancy were identified and, subsequently, the importance of trusting relationships between students and tutor and the need for dialogue. It also identified the influence of individual attributes.

A reconceptualization of the feedback process evolved that perceived the student as floating on the sea of assessments on a raft constructed of the Key 5 indicators of academic buoyancy and a mast of individual attributes supported by relationships and dialogue.

Various changes in practice followed in response to the findings designed to help the students deal with the emotional responses and to thereby use feedback constructively namely explicit teaching of the Key 5 indicators, redesigning the feedback sheets to support self-regulation, encouraging tutor/student dialogue about feedback and creating initiatives for developing relationships.

The research conducted shows the importance of widening focus from purely looking at feedback, to taking a systems approach and being mindful of the humans within the system and the system itself. The DIMoR (ahmed Shafi et al., 2020) helps with this analysis as it firmly places the student and their emerging resilience (academic buoyancy) at the centre of the process, but also acknowledges the resilience of other systems involved recognizing that resilience is a dynamic and interactive process. It thereby highlights the need to look for and at these intersections between systems and note the influence and impact the interactions can have on all stakeholders involved.

The chapter concluded by acknowledging that, whereas the research had started with a reductionist approach that focused on the use of the feedback by the learner, the data led the research towards a more systems perspective and subsequently used the DIMoR (ahmed Shafi et al., 2020) as a framework for analysis. However, it also suggested that, had the DIMoR (ahmed Shafi et al., 2020) been available at the research design stage, it may have led more quickly to a systems approach that could have helped create a more sophisticated research design that looked for evidence of the emergence of resilience and of the development of learning as a result of the feedback process in a wider range of contexts. In other words, as something that happens dynamically and interactively.

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Chapter 10
Educator Conceptualisations of Emotional Education and the Development of Resilience

Sian Templeton, Adeela ahmed Shafi, and Rebecca Pritchard

Abstract This chapter draws on data from an Erasmus + project on emotional education and its potential for developing competencies to prevent early school leaving in partner organisations spread across six countries in Europe. Emotional competencies are a part of the protective factors that can help the development of resilience, which is known to be relevant to success in school, including staying on at school. Particularly, this chapter is focused on educators—at the forefront of interactions with learner—and their conceptualisations of emotional education and how these can affect engagement and delivery of emotional education. The Chapter uses the dynamic interactive model of resilience (DIMoR) to understand the broader contextual and systemic factors that can shape educator conceptualisations and uses the opportunity to discuss and recommend that transnational interventions need to consider the wider context of settings in their design of programmes, if they are to be effective.

Introduction

This chapter presents how emotional education can contribute to the development of resilience. This is based on the recognition that emotional competencies can form part of the protective factors (see Chap. 2), which can aid an individual's resilience and support them to succeed in school (Brooks & Goldstein, 2012; Heckman & Kautz, 2012) and life in general (Sklad, Ritter, Ben, & Gravesteijn, 2012; Klapp et al., 2017), such as employment, well-being and developing to one's full potential (Heckman & Kautz, 2012). Positive psychology underpins the view that it is possible to promote resilience through teachable elements of emotional education (Seligman, Ernst, Gillham, Reivich, & Linkins, 2009). Emotional education incorporates behavioural, cognitive and emotional components (Taylor, Oberle, Durlak, & Weissberg, 2017). These enable learners to apply knowledge, attitudes and skills

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necessary to set and achieve positive goals, demonstrate empathy, engage in healthy relationships, responsible decision making and emotionally regulate (Axelrod, 2010).

As key deliverers of interventions, educator conceptualisations of emotional education are the focus of this chapter because of the important role they play in the relational context. This chapter reflects on findings from an Erasmus funded[1] emotional education project entitled EUMOSCHOOL[2] with educators in six partner based in Austria, Romania, Italy, Turkey, Hungary and the UK. Emerging themes that arose from this project in relation to the delivery of intervention programmes was the need to first appraise education professionals' conceptualisations of emotional education, the extent to which they valued emotional education and where they attributed responsibility for emotional education. This theme reinforced the importance of an adaptable and dynamic approach to emotional education, which in turn can influence resilience within learners.

Using the Dynamic Interactive Model of Resilience (DIMoR), ahmed Shafi et al. (2020), this chapter considers the wider dynamic and complex systems, which surround not only the children for whom the intervention/programmes is aimed, but also the educators tasked with delivering them. The project highlighted how the teaching of emotional education should not be viewed as an isolated mechanism through which to build resilience but part of a wider positive sustained school climate (Cohen & Geier, 2010). As Doll Brehm and Zucker (2014) remind us 'resilience is a characteristic that emerges out of the systemic interdependence of children with their families, communities and schools' (p. 400, 2014). Whilst emotional education can provide a mechanism through which to support the development of resilience, it is important to consider the wider implications and influences upon the delivery of such interventions, including the educators themselves.

This chapter will begin by presenting the EUMOSCHOOL Project, followed by how the DIMoR, (ahmed shafi et al., 2020), can illuminate the range of actors within the system when delivering the emotional education intervention. The chapter then discusses the findings from an exploration of educator conceptualisations from the partners in the different countries.

The EUMOSCHOOL Project

The EUMOSCHOOL project was funded by Erasmus + to research how emotional education can help prevent early school leaving (ESL)[3] as a potential risk factor for the development of resilience. The European Commission (EU), (2010) considers

[1] European Union funded research.

[2] Eumoschool https://eumoschool.eu/.

[3] As a statistical measure, ESL is the percentage of 18–24 year olds with only lower secondary education or less and no longer in education and training (European Commission, 2013). This stimulated the funding allocation for projects such as Eumoschool that aimed to contribute towards reducing ESL.

reducing ESL a means to resolve labour market issues in Europe in its EU2020 strategy and the use of transnational policy to address shared problems collectively (Moutsios, 2010). The EUMOSCHOOL project was based upon these principles and the use of a competence based emotional education intervention programme from Italy entitled 'Didactics of Emotions' (DoE) which focused on educator professional development. Six project teams from the partner countries in Italy, Austria, Romania, Hungary, Turkey and the UK collected qualitative and quantitative data from over 600 educators as part of the needs analysis stage of the project. A broad sample of educators conceptualisations of emotional education were gathered from; teachers, school leaders, teaching assistants and educational psychologists.

Educators from the partner countries were trained on the delivery of the 'Didactics of Emotion' intervention programme in order to deliver it in their respective educational settings. The project involved the development of online educational resources to support the training of educators and their delivery. The project highlighted that an understanding of educators' contexts was important in developing appropriate interventions and associated resources. The DIMoR, (ahmed Shafi et al., 2020), presents a visual representation of the way in which the contextual factors in each system interact and influence potential pathways. Within the project, educators were uniquely placed to comment on their specific contexts.

Using the DIMoR to Understand a Context and System

The DIMoR, (ahmed Shafi et al., 2020), was developed (see Chap. 2) as a way to bring together many of the established models of resilience to better understand the dynamic, interactive, complex and emergent nature of resilience. In order for emotional education interventions to be effective, a recognition of this complexity is important and particularly so when the same intervention is to be applied to a range of very different contexts. This is apparent both in terms of the different countries and the very specific and local context of the partners and participants in the project. The figure below illustrates the way in which local country contexts can differentially influence the conceptualisation of emotional education and impact on how the interventions are delivered (Fig. 10.1).

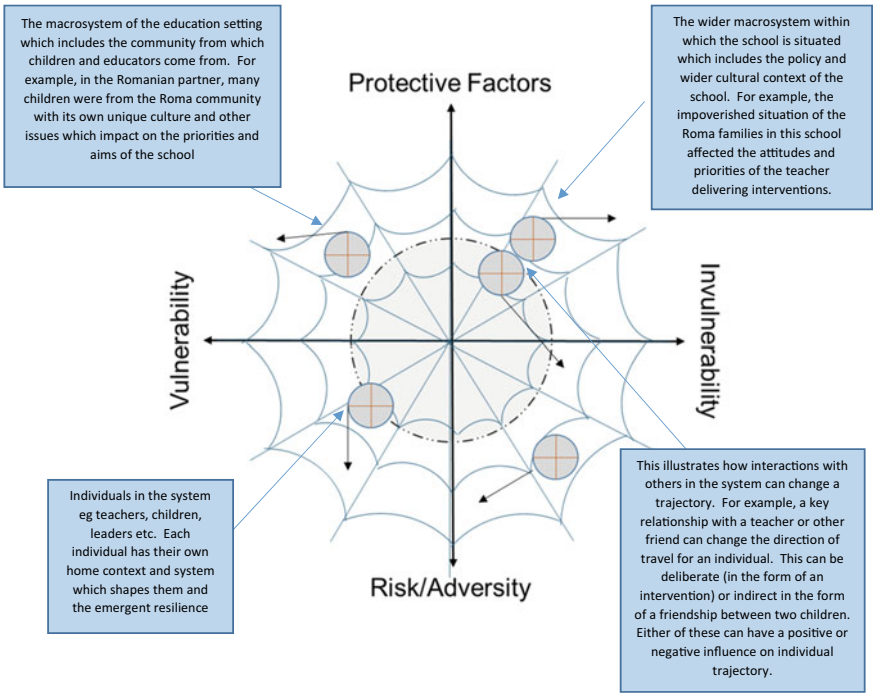

Fig. 10.1 Using the DIMoR to understand a context and system

The figure above illustrates how the context of educators' settings can influence their conceptualisations of emotional education, which is also likely to be shaped by the local context within which they are situated, as well as the wider macro level context. For example, for the Turkish partners, gender role expectations were identified as important as well as families' financial situations, which shaped their engagement with education. The Hungarian partners were situated in a location with a very high number of Roma families who also experienced high deprivation and poverty which again was different to the Italian partner context. This highlights the differences between contextual expectations and therefore can potentially lead to a challenge to the notion that one particular intervention can work in multiple contexts.

The DIMoR, (ahmed Shafi et al., 2020), also enables us to see how the trajectory of individuals in the systems can be changed by interacting both with the system and other individuals in the system. These may be deliberate interactions such as an intervention, or more indirect such as a friendship between children that could foster resilience. The DIMoR, (ahmed Shafi et al., 2020), thus enables us to examine the range of actors with a given systems so that we can explore how they play a part in the system for the emergence of resilience. An often forgotten element are the actual educators as key deliverers in intervention programs. We return to them as a focus later in the chapter when we examine the data, but the following section first examines emotional education itself and its relationship to resilience.

Emotional Education, Emotional Competence and Resilience

As discussed earlier in this chapter, one of the aims of the EUMOSCHOOL project was to 'teach' skills relating to emotional competence using emotional education through the highly structured programme; Didactics of Emotion. Part of the rationale for this explicit teaching of emotional competence through emotional education is that it is widely recognised that possessing the sub-skills of emotional competence (such as self-regulation, empathy, self-awareness etc.) has been shown to be important for success not only in school, but life in general (Sklad et al., 2012; Klapp et al., 2017), including employment, well-being and developing to one's full potential (Heckman and Kautz, 2012). Emotional competence is also recognised as a protective factor which contributes to individual resilience (Werner & Smith, 1979).

Emotional education can be explored as an *approach* to working with learners or a discreet *curriculum.* Specific social emotional curriculum interventions provide an evidence base on which to determine the impact on skills/emotional competencies (Jones & Kahn, 2017; Durlak, Weissberg, Dymnicki, Taylor, & Schellinger 2011; Humphreys, 2013). Within the field of emotional education, 'emotional intelligence' and 'emotional literacy' are key conceptual terms that are often highlighted. An issue with focusing on these broader terms such 'emotional intelligence' and 'emotional literacy' is the potential to concentrate on 'within child' factors (Weare & Gray, 2003) and, consequently, there is a danger of ignoring the more complex interactive nature of other contributory systems around the child such as schools, families and communities (Haddon, Goodman, Park, & Deakin-Crick, 2005).

Emotional education as part of a pedagogical repertoire has the potential to contribute towards developing resilience for our young people and thus prepare them for challenge, change and flux. However, often interventions which focus on emotional education take place once learners have been identified as being 'at risk' and therefore needing support in this area. This model of 'identify' and 'intervene' is driven by a deficit model in which skills are seen to be lacking and requiring further support. Many researchers therefore argue for recognition of a broader contextual understanding through earlier interventions focusing on increasing students overall social and emotional competencies through a wider systemic approach rather than individualised programmes (Gutman & Schoon, 2013; Klapp et al., 2017) with Weare and Gray (2003) emphasising the importance of creating appropriate environments in order to optimise the success of these programmes. These 'emotional education' or 'social and emotional learning' approaches which take into account the learning environment in addition to the specific content of the programmes have been found to demonstrate positive effects on intra and inter-personal affective competencies, Klapp et al. (2017).

The conceptual grounding of emotional education being a key contributor to academic engagement is based on the argument that if a learner can self-regulate their emotions during learning, they are more resilient to setback and challenge and thereby more likely to remain engaged with their learning (ahmed Shafi et al., 2017; Hatzichristou & Lianos, 2016) support the connection between resilience and

components of social emotional learning/education within a multi-level conceptual framework, the importance of schools and communities, including the impact of wider social and economic factors that can impact on engagement are empahasised; this is further considered through the DIMoR, (ahmed Shafi et al., 2020), model in Chap. 2.

There are many programs designed to support children's emotional education implemented in schools around the world (Humphrey, 2013). This movement seeks to transform educational practice into a 'humanizing experience' (Elias et al., 2015) where emotional education is not merely a 'subject' that is added to the curriculum, but embedded within a whole school context and, as a result, recognises the positive impact on behavioural and academic outcomes. This elevates the status of emotional education as an essential underpinning across the whole school curriculum, influencing resilience of learners and facilitated by teachers as key deliverers of the curriculum. This 'humanising experience' is upheld by Banerjee, Weare, and Farr (2014), in their analysis of the UK government led 'Social and Emotional Aspects of Learning' programme (SEAL, DfES, 2005). They emphasised that a socially and emotionally literate school ethos is more influential than a programme per se.

The links between children's emotional health and wellbeing, cognitive development and future wellbeing and in turn resilience has been widely reflected in the literature (see Banerjee et al., 2014; Panayiotou & Humphrey, 2018). Klapp et al. (2017) suggest that the development of emotional competencies reduces the likelihood of engaging in risk taking activities such as violence and drug misuse, which are highlighted as risk factors for the development of resilience. For example, the analysis by Dietrich (2012) found that lack of emotional resources was a common characteristic of unemployed youths (who are generally recognised as being less resilient than their employed counterparts). Young people's emotional competence also links with their short-term achievement and longer-term outcomes into adulthood (Weare, 2015). All of these indicate the potential of emotional education as a protective factor that optimises support to members of a school community for these longer-term (Reynolds et al., 2011) and short-term outcomes (Durlak et al., 2011) and thus positively impact on their emerging resilience. This is highlighted by the work of Banerjee, Weare and Farr (2014) where they establish a clear link between a socially and emotionally literate school ethos and learner achievement results and attendance. Gutman and Schoon (2013) emphasise the necessity of taking a holistic approach to promoting skills and addressing risks rather than isolated skill development as key in the development and delivery of emotional education programmes. The need to therefore focus on a more holistic approach that takes account of, and is responsive to, the context to support the development of resilience. This is also reinforced by the observation from Downes (2017, p. 16) that '…resilience [is] an interactive directional process more than a static trait'. In this, Downes has recognised that resilience is on-going rather than something that you can 'remedy' with an intervention.

Emotional competencies can be seen to serve as protective factors in dealing with change and as predictors of academic success (Heckman and Kautz, 2012) and can be developed through emotional education. This ability to manage change is well

linked to the resilience literature (Masten, 2015; Rutter, 2013; Werner, 1993) and is explored more fully within Chap. 2.

These ideas around the competencies developed through emotional education complement the key factors of the dynamic processes of behavioural, cognitive, emotional and psychological factors within individual levels of resilience. The cognitive-emotional skill of emotional regulation developed as part of a wider, holistic emotional education programme can also protect against risks, such as offending behaviour (Taylor et al., 2017) or early school leaving and dropout (Christenson & Thurlow, 2004), factors clearly linked to 'risks' identified within the resilience literature.

The Role of the Educator

The DIMoR, (ahmed Shafi et al., 2020), illustrates that we cannot solely focus on individuals and 'within-learner' factors of what may/ may not be recognised as resilience; the role of the educator within this process may be argued as being at least equally important. There is growing evidence that teachers' beliefs, feelings, and behaviours have an impact on student engagement and outcomes (e.g. Arens & Morin, 2016; Klassen & Tze, 2014; Leventhal et al., 2018). The importance of the individual qualities of the educator and their pedagogy as a means to facilitate engagement, develop academic resilience (Martin, 2002) and emotional competencies (Klapp et al., 2017) should not be underestimated (Goldspink & Foster, 2013). Developing these ideas around the importance of individual qualities of the educator, Goldspink & Foster (2013) also emphasised the significance of the proximal and distal learning context, echoing the work of Skinner, Furrer, Marchand and Kindermann (2008). Within this work, the essential role of the educator and their pedagogical approach was emphasised in delivering impact on the developing resilience of learners through a focus on emotional competency development.

However, educators' role perception within emotional education intervention literature has not been fully explored. Even in the socialisation literature, teacher beliefs or conceptualisation of socialisation practices in the school environment, have been ignored in many studies, despite the prolonged contact and impact they have on learners as illustrated by Zinsser, Shewark, Denham and Curby, (2014). Their study explored educators' beliefs about the value of social and emotional learning; their perceptions of socialisation practices and strategies; and their beliefs about their role in children's emotional development. They concluded that differences in teacher beliefs could affect both outcomes and delivery of intervention programs. This points to how the educator plays a significant role in developing emotional education and how individual qualities can influence the success or not of a programme and re-emphasises the importance of considering wider factors than the programme per-se when trying to develop factors which may contribute to emerging resilience.

Educator Conceptualisations of Emotional Education

Educator conceptualisation of emotional education is therefore central to understanding and implementation of interventions; how educators define, value and understand emotional education is potentially key to the efficacy of implementing an intervention (Jennings and Frank, 2015) alongside where they attribute responsibility for the development of emotional competencies in learners in order to develop resilience. For example, it is possible to have a shared understanding of emotional education and value it (Reeves & Le Mare, 2017), but this does not automatically mean that educators believe it to be their responsibility to support this in practice especially if an 'interventions' approach is taken. Educator self-efficacy about their ability to implement emotional education in their settings is likely to be influenced by their perceptions around barriers and opportunities within their learning environments (Alridge & Fraser, 2016). Like learners, educators are a dynamic product of their culture, context, experience and personality all of which are likely to shape their own resilience and conceptualisation of emotional education within their context (Ungar & Liebenberg, 2013). These in turn impact on their motivation and skills in imparting the programme (Leventhal et al., 2018).

The challenges of emotional education are copious and reflect the dynamic nature of reciprocal interactions between and within systems which include both the learner and educator as illustrated within the DIMoR, (ahmed Shafi et al., 2020). Factors such as the family, community, culture, context and the setting all affect emotional education and how it is 'delivered' and received. Within the EUMOSCHOOL project, it emerged that the crux of a number of these issues centred on educators and their conceptualisations of emotional education as key deliverers of interventions and in particular, whom they believed should provide it and the value that individual schools placed on it.

Four Components of Emotional Education

The issues around educator conceptualisation was reinforced further from the findings from educator survey responses as part of the EUMOSCHOOL project. Within the survey, educators were asked to ascribe perceived importance of a list of relevant emotional education competences and these were subjected to an exploratory factor analysis which revealed four main components of emotional education (see Table 10.1). These components connect with the protective factors which enable resilience (see Catalono et al., 2004; Luther et al., 2000; Werner 1993 in Chap. 2) and were labelled as *Relatedness, Mindful Awareness, Emotional Agency* and *Empathic Understanding* (see ahmed Shafi, Templeton, Huang & Pritchard, under review). *Relatedness* refers to co-operation, managing conflict, working in groups or helping others. *Mindful Awareness* refers to the awareness of own and others' emotions and developing positive relationships. *Emotional Agency* refers to acting on areas of

Table 10.1 Four components of emotional education and their related competencies

	Interpretation of the component	Items of related competences
1	Relatedness	Cooperating
		Managing conflict non-violently
		Working effectively in groups
		Help-seeking and help-giving
2	Mindful awareness	Recognising emotions in self and others
		Approaching others and building positive relationships
		Recognising own strengths and areas of need
		Regulating and managing strong emotions (unpleasant and pleasant)
3	Emotional agency	Recognising own strengths and areas of need
		Listening actively
		Communicating accurately and clearly
		Setting positive and realistic goals
4	Empathic understanding	Taking others' perspectives and sensing their emotions
		Showing ethical and social responsibility
		Respecting others and self and appreciating differences

Adapted from: Ahmed Shafi, Templeton, Huang & Pritchard, under review

strength and need in relationships. *Empathic Understanding* is about empathy, social responsibility and respect of self, others and difference, implying the competence of taking others' perspectives and sensing emotions. There was broad consensus on the components of emotional education across the six countries. The strength of emphases on each of these components varied across the partners and appeared related to the extent to which educators felt equipped to provide emotional education.

A Context and Systems Level Approach

The differences between partners on the attribution of responsibility for emotional education referred to the local context, culture, policy and pupil intake of the local networks of the participant samples in each of the countries. It pointed towards the importance of culture and context, illustrating how the educator is an individual embedded within a cultural and societal system, just as the individual learner is. This nuanced perspective underlies how the educator themselves can sometimes be a 'forgotten' element within the system. The DIMoR, (ahmed Shafi et al., 2020), recognises and acknowledges the educator as one of the actors situated within the

(school) system. It somewhat challenges the finding from Gershon and Pelliterri (2018) that some emotional education programmes have potential in terms of cross-cultural usage. Instead, it connects more to the ideas put forward by Hatzichristou & Lianos (2016) who advocate the importance of recognising the wider social and economic context within which schools are situated in order for social and emotional learning interventions to be effective in achieving their aims. This also reinforces the argument put forward by Weare & Gray (2003) about the significance of the school environment in determining levels of social and emotional competence and the importance of the quality of daily interactions and subsequent impact on people's feelings and the development of resilience (Haddon et al. 2005).

This was echoed in the finding within the EUMOSCHOOL project on the value for emotional education where there was greater variability between partners. This variability appeared to be due to the sociocultural context which determined the extent to which emotional education was seen to contribute to improved longer term outcomes. The priority of these outcomes was again, connected to the local context. For example in Romania, the importance of self-awareness and empathy was linked to diversity, the tolerance of others and reduced prejudice (further supporting the *Relatedness* component from the questionnaire data). This positioned these findings within the *relational approach* put forward by Reeves and Le Mare (2017). In the UK, the longer-term outcomes related to academic attainment, encased within a school and policy culture that is attainment driven. In this way, educators assessed the value of emotional education according to their social, cultural (and policy) contexts. Utilising the DIMoR, (ahmed Shafi et al., 2020), it is possible to map the relative influencing factors within any given system including the external drivers, such as policy and culture.

The range of system based factors that have contributed to how educators conceptualise emotional education illuminate the importance and complexity of educator engagement. For example, if educators do not attribute themselves to be responsible for emotional education, then they are less likely to engage in interventions. Further, if the educator does not feel an intervention has value, then they are less likely to engage with it beyond the level of compliance. This has implications for learner engagement and the development of resilience especially if the intervention is part of an overall approach taken by the setting to develop resilience. There is plenty of literature (e.g. Goldspink and Foster, 2013; Zinsser et al., 2014) which points towards the importance of the educator in delivering interventions, as well as how educator engagement impacts on learner engagement (Perera, Vosicka, Granziera, & McIlveen, 2018; Arens & Morin, 2016; Goddard, Hoy, & Hoy, 2000; Klassen & Tze, 2014). Klapp et al., (2017) emphasise that through engaging in good quality pedagogy and the qualities of the educator, emotional competences can be developed. This suggests that the development of emotional skills is important and valuable for learners, but that this in isolation is not sufficient, further pointing to how the development of, for example how resilience can only be fostered or facilitated through a system level approach. Thus, the educator and their ecology of the learning context merits attention. This is further reinforced by the work of Zinsser et al. (2014) and Leventhal et al. (2018) who emphasised the individual value and belief systems of educators

and how these might impact on the success of emotional education whether part of a specific programme or something wider in the ecology of the learners. Research more generally has demonstrated the potential of emotional education can be increasingly realised when embedded within a whole school approach to developing resilience (Banerjee, Weare, & Farr, 2014; Gilbert, Rose & McGuire-Snieckus, 2014). These findings illustrate how the educator is an individual embedded within a professional, cultural and societal system and that in order for emotional education interventions to have traction, it is important to engage educators through a recognition of the system/s within which they are situated and their key drivers. This has implications for the effectiveness of interventions which require the 'buy-in' and engagement of the educator.

The DIMoR, (ahmed Shafi et al., 2020), offers a way in which a context or setting can assess the range of factors at play within any given system by enabling leaders of interventions to develop emotional education and thereby resilience to visually map their system and its interacting factors. This would provide an opportunity to design interventions that could identify some of the potential challenges within that system to better work across contexts. At the same time it can enable enough flex for each context to not only recognise the various factors that might impact the success of the intervention, but also then respond to those so that the intervention/s are responsive to such factors rather than oblivious. Indeed, the DIMoR, (ahmed Shafi et al., 2020), can also illuminate opportunities which may otherwise be missed when considering interventions in a narrow way.

Conclusions

The findings from the EUMOSCHOOL project focused on educators' conceptualisations of emotional education and the extent to which they perceive their role to be a part of that. Whilst emotions have been cited as significant for resilience and for promoting effective learning, there has been little research which has explored educator conceptualisations of emotional education and how his may affect engagement and delivery. Given that educators are at the forefront of interactions with learners, this seems an important endeavour. Whilst there is a general consensus of defining what is meant by emotional education, the value educators placed on it and attribution of responsibility in terms of who provides it, varied between partners.

This chapter provides some unique insights into how educators in several different contexts conceptualise emotional education which helps build resilience. As a transnational piece of work, this project highlights how whilst a number of nations can make a collective pledge to resolve a particular education issue, how interventions are implemented locally, has to take account of the local socioeconomic, policy and cultural context of which the educator is an important part. It highlights how the educator is an active and agentic social being who is situated within a political and social context. Cross-national programmes that adopt a context specific system level approach that recognise differing interpretations and attributions of emotional

education are likely to be more effective in developing resilience. This has implications for transnational intervention programmes designed to be implemented in a range of contexts. Ironically, for too long educator conceptualisations of interventions have been ignored. Our research shows how educators conceptualise emotional education, who they believe is responsible for providing and how they value it, can play an important role in how effective emotional education interventions are. The implications of this are that before interventions are delivered, consideration be given to educators' beliefs and values as these are likely to determine the extent to which they engage with the intervention and its subsequent success. Using the DIMoR, (ahmed Shafi et al., 2020), is one way to capture the importance of educator conceptualisation alongside the other factors, acknowledging their pivotal role in the system and enable greater success of interventions designed to develop resilience through emotional education.

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Chapter 11
Young Offenders and the Complexity of Re-Engaging Them with Education and Learning Whilst Incarcerated: A Case Study

Adeela ahmed Shafi

Abstract This chapter draws on research on re-engaging young offenders with education and learning in a secure custodial setting in England as a case study to examine the range of complex and interacting factors that shape the educational experiences of young offenders. It uses the Dynamic Interactive Model of Resilience (DIMoR) (ahmed Shafi., 2020) as an analytical framework to consider the risk-protective/vulnerability-invulnerability matrix against the backdrop of the micro, meso, exo and macrosystems, which structure the experiences of the young people. In so, doing this chapter illustrates how the DIMoR can provide an opportunity to consider a system wide approach to interventions which can support their success.

Introduction

As discussed throughout this book resilience is a multi-dimensional, domain and context specific construct (Masten, 2018). Resilience has been the focus of research across many disciplines ranging from engineering to psychological resilience; community and organisational resilience to educational resilience, each with their own sub-disciplines. This demonstrates the versatility and importance of the concept but also runs the risk of meaning everything and therefore nothing (Brown, 2015). As a concept that is currently 'in vogue', it also runs the risk of having 'buzzword' status, viewed as a silver bullet for a multitude of problems. We have thus argued elsewhere in this book how resilience is a complex construct and put forward the case for a particular approach to resilience (see Chap. 2) which addresses some of these issues to a certain extent. In this Chapter, resilience is explored in a very specific context and with a very specific group of learners: young offenders in a secure custodial context. This is because in addition to complex and challenging backgrounds, there is considerable evidence that experiences of education and formal learning for young

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people who come into conflict with the law tend to have been disruptive and unfulfilling (Cripps & Summerfield, 2012; Little, 2015). Many of them become disengaged and disaffected early in their educational careers (Hirschfield & Gasper, 2011; Kirk & Sampson, 2013; Graham, Van Bergen, & Sweller, 2015). Many also have other education related adversities, which place them at even greater risk of education failure. The educational 'failure' is indicated through the 9 out of 10 young people in custody who have dropped out of school before being incarcerated (Little, 2015) with dropout being an indicator of disengagement (Rumberger & Rotermund, 2012; Kirk & Sampson, 2013). Thus, young people in custody have a number of risk factors for which a dynamic, complex systems approach is required to re-engage them with education and learning.

This chapter considers the significance of the secure educational context and its interaction with wider contexts to understand how best to foster resilience in incarcerated young people. Wang (2012) first discussed resilience with a focus on educational contexts in the 1990s, as interest in disadvantaged children and young people with adverse life experiences and circumstances such as poverty, poor housing, poor employment opportunities, poor health care or exposure to crime and addictions, indicated that they were at an increased risk of educational failure. She defined educational resilience as 'the heightened likelihood of educational success despite personal vulnerabilities and adversities brought about by environmental conditions and experiences (Wang, Haertel, & Walberg, 1994, p. 4). Wang et al. were interested in how children and young people at risk succeeded in education, despite their adverse circumstances. Young people who come into conflict with the law have a series of these disadvantages and adverse life circumstances and the evidence suggests that they have not been able to overcome them to succeed in education. The Dynamic Interactive Model of Resilience (DIMoR) introduced in Chap. 2 is used as an analytical framework to examine the wide range of interactive (and competing) factors which can affect the educational resilience of young people serving custodial sentences.

Understanding the Circumstances of Young People in Conflict with the Law

Family breakdown, lower socioeconomic status, education attainment, learning difficulties and mental health are all circumstances that can impact learning. As many as 34% of boys and 61% girls in conflict with the law reported being in the care of the local authority at some point (Murray, 2012; Kennedy, 2013). Other research by Jacobson, Bhardwa, Gyateng, Hunter and Hough (2010) found that 76% of young people who offended had an absent father and 33% had an absent mother. The same study also found that over 51% had come from deprived or unsuitable accommodation. Young people who offend are also more likely to have parents who have been

incarcerated (Farrington, Ttofi, Crago, & Coid, 2015) and more likely to have been exposed to drugs and alcohol abuse (Manly, Oshri, Lynch, Herzog & Wortel, 2013).

Further, half of the 15–17 year olds entering custody have levels of literacy equivalent to that expected of primary age children of 7–11 years (Education Funding Agency, 2012). This may be because 86%-90% of 15–17-year-old boys and 74% girls coming into custody have been excluded from school at some point and many (36% boys and 41% girls) had not been to school since they were 14 years old (Murray, 2012; Little, 2015). As well as the lack of attendance or being excluded, young people who find themselves in custody are also likely to have higher levels of learning disabilities (Williams et al., 2015) with a prevalence of 23–32%, the figure is 2–4% in the general population (Hughes 2012). Such circumstances would reflect a number of the risk factors for educational resilience. The imbalance of risk and protective factors around children in these circumstances contribute to them coming into conflict with the law and subsequent incarceration (Farrington, Ttofi, & Piquero, 2016).

Factors that Promote Educational Resilience

As discussed in Chap. 2, it is possible to mitigate against risk factors for resilience by developing and promoting protective factors. These protective factors come in a range of guises and these are based on individuals as well as environmental conditions. The resilience research in the psychological literature has given much credence to the importance of these protective factors as a way to develop resilience in at-risk children. Consequently, there has been a plethora of research in this area (e.g. Luthar, 2006; Masten 2001, 2007; Wright et al., 2013) and remarkably the range of these protective factors have remained fairly stable over the last two decades of research (Masten, 2015). Protective factors include within-child factors and the interaction of a range of environmental factors. This 'short list' (Masten, 2015) of protective factors include effective caregiving/parenting and close relationships with other capable adults, intelligence and problem-solving skills, self—regulation, direction and agency, optimism and hope. These protective factors may be organised at several levels depending on their proximity to the child and often arranged within the ecological model (Bronfenbrenner, 1979) in terms of the micro and macro systems that support resilience i.e. family, school/community and culture/society.

For the purposes of this book, we are largely interested in the importance of the educational context. Schools, as educational settings, have been shown to be a protective factor from some of the earliest resilience research even before the educational resilience literature came into the fore (e.g. Werner, 1993). For example, the school environment nurtures many of the adaptive systems in the individual that foster the development of resilience. This includes an environment that helps the development of caring and nurturing relationships—in some cases replacing that which is not provided within the family context. This has been even more important for children from disadvantaged backgrounds who are at high risk of school dropout (Doll et al.,

2013). Teachers can also promote engagement in the classroom which can prevent children from dropping out of school (Goldspink & Foster, 2013). Schools and educational settings represent a sense of stability and continuity for some children who may come from chaotic family backgrounds (Barnert et al., 2015). Indeed Henderson (2012) highlight how teachers that provide a caring and supportive environment, have high expectations and create opportunities for participation which foster resilience in children at risk.

In creating nurturing and supportive environments, (turnaround) teachers (and schools) can create the conditions to develop motivation, efficacy and agency, all of which are also protective factors. The body of research on the importance of school and its protective factors has been conducted using a range of methodologies and generally, come to similar conclusions regards the role of the school. A more recent paper from Downey (2014) decided to take the perspective of children in understanding the factors that promote educational resilience. She found that the 50 children in her study described eight factors that fostered educational resilience. These were intelligence, feelings, behaviours, home environment, family assistance, school support, community connections and organized programs that improved their academic performance. These do not differ so much from the extant literature in this area.

However, the children in Downey's study, whilst described as facing serious life difficulties were still attending school and presented as fairly engaged. As mentioned earlier, young people in conflict with the law have already disengaged from education and often dropped out, therefore this aspect has already failed them. We would also be mindful that school can also become a risk factor when it does not engender the qualities of an effective school (see Chap. 4). Hence, the need to foster the protective elements of schools within a custodial setting where they are still entitled to 30 h of education provision per week. However, this comes with its own challenges as the secure custodial setting is not a replica of a mainstream school or even that of alternative provision (ahmed Shafi, 2018a). These include the fact that the secure setting is primarily punitive in nature rather than educational which shapes the culture and environment of the setting (see Case (2018) for a discussion on the welfare vs justice debate). Nevertheless, despite its challenges, it also has opportunities. For example, the students are there full-time and the risks of innovation or trying something new are less because the pressure of achieving exams and qualifications is more relaxed (ahmed Shafi, 2019). Further, the young people are also cared for under the same roof, so effectively you have the 'family' and 'educators' in the same place meaning greater opportunity for continuity of approach, or indeed greater tension as educators and carers focus on different priorities (Andow, 2016; ahmed Shafi, 2018b). However, it is important to get a better understanding of how this may happen in reality by understanding the secure and locked environment of a custodial setting for young people.

The Educational Context in Custodial Settings

Secure Youth Provision in England and Wales

The type and form of custody and secure accommodation for young people in conflict with the law has changed shape and form ever since the first structure for youthful offenders, Parkhurst Prison on the Isle of Wight in 1838 was built. Most of the structures and forms of custody reflect the dominant political and ideological debates of the time (McAra, 2010). Currently, in the UK, there three main types of custody for children and young people and are typically dependent on age. Young people aged 10–15 years are placed in Secure Children's Homes (SCH), those over 15 are usually placed in Young Offender Institutions (YOI) or Secure Training Centres (STC) for a Detention and Training Order (DTO). In a DTO, offenders spend half their sentence in a secure setting and the remainder in the community, supervised by a Youth Offending Team[1] (YOT). There are currently circa 900 young people under 18 in custodial settings (Youth Justice Board, 2018a, 2018b) with approximately 605 young people in YOIs, 171 in STCs and 100 in SCHs.

Education Provision in Custodial Settings

The Ministry of Justice (2013) states that a period in custody represents the structure and boundaries which many young people in conflict with the law, have not experienced in their lives. A good quality educational experience can form the basis of this structure (Ministry of Justice, 2013). However, research on education within the secure context is not plentiful (Hart, 2015) and much of it is focused on specific education interventions rather than the overall approach to education provision.

Challenges in the education of young people whilst in a secure setting are copious. They include: navigating a youth justice system with both welfare and punitive elements; individual challenges, such as emotional, behavioural or learning difficulties; previous (negative) educational experiences; complex social backgrounds; a lack of educational records; constrained resources and; a workforce who may not be qualified as teachers or trained to the needs of young people in custody (Jeanes et al., 2009). Research by Smeet (2014) from the Netherlands and Ball and Connolly (2000) in England illustrated the challenges centred around patchy previous educational records as young people entered the secure estate. The UK Office for Standards in Education (OFSTED) also identified that many establishments described considerable difficulty in accessing documentation from schools, local authorities or other professionals and in some instances the information did not exist at all

[1] A youth offending team is a multi-agency team and are co-ordinated by local authorities in England and Wales. The YOT works with young people in conflict with the law as they go through the youth justice system with a view to supporting the young person and preventing reoffending.

(King, 2015). This results in education within youth justice that cannot be seamlessly picked up from the previous institution/s, nor respond to any additional needs without conducting full assessments on arrival of the young person at the secure unit.

There were a number of reasons for the difficulty in accessing information, including that many young people who offend have not been in school for some time (Smeet, 2014; Little, 2015) and the most recent schools were not especially proactive in forwarding educational records nor were they up to date (Ball & Connolly, 2000; Smeet, 2014). Again, there are a range of reasons for this, such as schools removing a perpetually absent child's name from the register to avoid skewing their data—recently termed 'off-rolling' (Danechi, 2019). Whatever the reason, considerable time is consequently spent on ascertaining educational levels before devising an education plan and if the sentence is short, the time is potentially wasted. Such challenges risk educational interventions whilst in custody being applied as a 'blunt instrument' without consideration of the specific needs, education level or background prior to incarceration. These circumstances create yet another adverse set of circumstances that may be considered as risk factors for developing resilience.

Furthermore, previous research has suggested that education and training in custody is fragmented and of a lower quality than mainstream schooling (Frolander-Ulf & Yates, 2001) holding a marginal status in custodial settings (Jones & d'Errico, 1994). 'Instructors' rather than qualified teachers are more likely to be employed as prison educators, contributing to the marginal status and high staff turnover (Jeanes, McDonald, & Simonot, 2009). Staff do not always see the fruits of their efforts as students move on and the education or training may not continue, thus teacher expectations can also be low (Houchins, et al., 2010). This means that the literature which supports education settings as protective factors for resilience, due to the relationships that may be developed, is thwarted. This is further compounded by the transient nature of setting and the desire or focus to achieve is somewhat diminished from both the teacher and pupil perspective (Sander, Sharkey, Olivarri, Tanigawa, & Mauseth, 2010). Consequently, educational aspirations are limited (Stephen & Squires, 2003; Oser, 2006). These are all conditions that do not facilitate protective factors for resilience that are associated with educational settings.

The complexity of these circumstances do not lend themselves to educational resilience or success despite adversity. Thus, whilst it was mentioned earlier that the secure custodial setting offers opportunities, these come with considerable obstacles. A first step in facilitating the opportunities afforded is an understanding of the multifariousness of the context, the dynamic and interactive nature of it in order to suggest ways of fostering educational resilience within it. We can, however, draw on ahmed Shafi et al. (2020) DIMoR (presented in Chap. 2) as a starting point in understanding the context. Combined with some recent research on re-engaging young people in secure educational settings, we can create a rich picture of the setting and the areas which can be focused on to develop the conditions for educational resilience within the setting. This may seem an ambitious task given the discussions in the chapter so far. However, if we are to work towards mitigating negative early experiences of these young children, then we need to be serious about understanding where they are, where they came from and where they are likely to go. Resilience is important not only for

life in general, but particularly in helping the young people transition from custody to the community. Developing educational resilience is important, especially as those who engage in education whilst in custody are also likely to continue when back in the community (Lanskey, 2015). However, as young people in custody are generally disengaged with education and learning, this creates its own particular issues and require specific strategies for re-engagement. This can contribute to resilience in order to persist and succeed, despite the adversities both whilst incarcerated and in transitioning back to the community.

Adopting the DIMoR in Custodial Settings to Foster Resilience

The DIMoR

The DIMoR, which is the focus of Chap. 2 in this book, was developed by ahmed Shafi et al. (2020) by building upon existing and well-established models of resilience. In this newly built DIMoR, resilience is an emergent property of risk-protective/vulnerability-invulnerability and for this reason, we present resilience as emerging from the reciprocal interactions of these factors. Resilience is thus context and domain specific, based on Ungar's (2013) principles of equifinality, differential impact and cultural moderation as well as Downes' (2017) notion of agency, all encased within Bronfenbrenner's (1979) ecological model of human development. The result is presented as the image in the figure below, which aims to encompass the key ideas from these models in all their complexity. It demonstrates the complex, multidimensional, dynamic, interactive, context and domain specific nature of resilience that emerges from the interaction of all these properties.

The DIMoR Applied to Secure Custodial Settings

The DIMoR can be applied to secure custodial settings as it can to any other setting in order to understand the complexity of resilience as an emergent property, both at an individual and organisational level. The model can help to conceptualise the various actors and structures within the secure setting that can affect individual resilience. The case study in the next section shows how peers, staff and the context play a key role in their behaviour (social and emotional) in custody (and probably beyond). Understanding this complexity is useful in planning and developing a resilience-fostering environment (see below a visual version of the DIMoR).

The ecological system represented by the 'spider web-like' structure in the DIMoR demonstrates the interconnectedness of the various ecosystems. The microsystem in the case of the secure custodial setting consists of the staff (care, education and

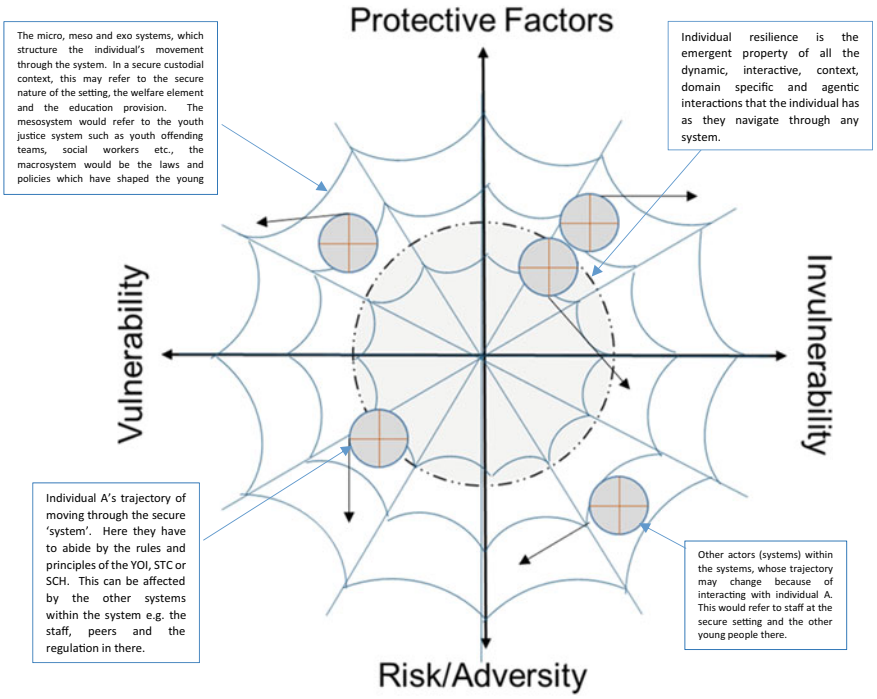

Fig. 11.1 The Dynamic Interactive Model of Resilience (DIMoR) as applied to a secure custodial setting

specialist staff), the peers at the secure setting, the secure, the locked physical environment of the setting *and* the interactions of these with the young person. The mesosystem refers to the interactions between those in the microsystem, particular the staff at the setting but also other external agencies which may not directly interact with the young person. This could include YOTs, onward or previous educational establishments, doctors, lawyers and so on. Their interactions affect the young person, for example, if a YOT is unable to place the young person for when released in a timely and appropriate place, the uncertainty affects the young person's behaviour (Lanskey, 2015). The macrosystem features include wider laws, policies or the media that shape the experiences of all within the secure context. For example, a high profile case that is covered in the media means the secure setting needs to take measures to protect the young person's identity at the secure unit. The macrosystem is affected by the wider cultural approach to young people who offend and has shaped the tensions surrounding what is known as the welfare-justice debate on youth offending (see Haines and Case, 2015 for a discussion on this). This has shaped how the youth justice system is primarily characterised by a punitive approach, manifested in the secure locked nature of custodial settings and the welfare approach due to the age of the young people (Fig. 11.1).

If one is to view the secure custodial setting as a system, it is possible to begin to identify the risk-protective factors and the vulnerability-invulnerability aspects within the system. An example of a risk factor is the transient nature of the young people and indeed the staff turnover at the setting that prevents the development of relationships. Relationship have consistently shown to be an important protective factor for resilience (e.g. Luthar, 2015) and the challenge of developing ans sustaining them can be challenging. A vulnerability of the secure setting is the changing policy landscape to which the setting has to continually respond. For example, a change in policy with regards to first-time entrants (FTEs) into the youth justice system through diversionary measures or the use of restorative justice has resulted in a significant drop in young people in custody (Bateman, 2014). This meant that the youth estate shrunk significantly, meaning children were being sent to secure settings far from their home. This again acts a risk factor to maintaining relationships with family and home networks, which have been shown to be effective in rehabilitation (O'Neill et al., 2018). Nevertheless, a protective factor could emerge from the secure and '24 hr' presence of the young people at the setting where there is an opportunity for relationships between young people and the staff as well as peers to be fostered and nurtured. Education provision at the setting is another opportunity to develop a protective factor because it can foster a sense of purpose and future. However, at the same time, an invulnerability is the rigid rules and secure regime, which restrict and structure both physical movement and autonomy—risk factors in resilience.

Ungar's (2013) notion of equifinality helps us to understand how in some circumstances one system or another can become more influential to the outcome, for example the environmental context can have a considerable impact on the young person in custody. However, within the education space at the secure setting it is possible to enable individual factors and relationships to become more important. This is illustrated through ahmed Shafi et al. (2020) DIMoR model by the shaded circles (orbs) which represent individuals within a system. Each orb (A) is an individual, navigating the secure custodial setting as the broader system. Each orb as a system in itself also has its own DIMoR with risk-protective factors/vulnerability-invulnerability, all embedded within the individual's own ecosystem. In the figure above, individual A's trajectory is shown as it moves through the secure setting 'system'. Here the individual has to abide by the rules and principles as they do their time, but is shaped and influenced by the other systems within the system e.g. the staff, peers and the regulation in there (the spider web-like structure). If A has a challenge with one of the staff/peers (other systems), this can have an impact on them in that they may be withdrawn from activities and possibly even affect their sentence, which can then affect their own trajectory. This can be illustrated in the DIMoR where the interaction with the system or other individuals in the system can alter trajectories of one or all in the interaction and therefore their emergent resilience. Thus, an individual does not unproblematically move through systems but the interactions can change trajectories. As Downes (2017) suggested, interaction with others and agency can shape that movement for the individual and even other individuals. In some instances an individual can even change the broader system by campaigning for change or even through the occurrence of tragedy (such as a death in custody). The

following section describes an ethnographic case study of young people in custody that aimed to re-engage them with education and learning. It serves to illustrate some of these interactions in a real context.

An Ethnographic Case Study

An ethnographic case study conducted over two main phases in one secure children's home in England aimed to re-engage young people with education and learning whilst in custody (ahmed Shafi, 2018a, b, 2019). Phase I explored how young people in secure custodial settings perceived education, school and learning in relation to their own lives. Phase II was concerned with exploring the nature of engagement in young people with education and learning within the secure context, consisting of case studies of 5 participants, involving the use of Authentic Inquiry (AI) (Crick 2009, 2012) as a means to re-engage them. AI was developed as a pedagogical model, placing the learner at the centre, typically starting with a concrete place, object or experience that is of importance to the learner. Through the process, this can develop into, for example, a product such as a poster, presentation, artwork, essay, poem which can be assessed for English, Maths or Art. AI offers a way to connect the participant's own interest and knowledge creation with formal education and has been shown to appeal to disengaged learners (Jaros & Crick, 2007). The process provided a framework for data collection at various points offering insight into the nature of engagement in this particular group. The findings of this research and associated methodological and ethical challenges are discussed elsewhere (see ahmed Shafi, 2018a, b, 2019) and for this chapter, the study is used to illustrate how the DIMoR could be used to support the setting to enable resilience to emerge—despite its challenges.

Using authentic inquiry, it was possible to re-engage all the young people involved in the case studies, representing varying levels of resilience i.e. success despite the adversities of the context. However, this was to different degrees and much of the challenges were down to the secure context and the difficulties it presented for each of the young people. It demonstrated how the secure context was a defining feature in the education and learning of young people in custody (ahmed Shafi, 2019). The figure below summarises the conditions that in resilience terms acted as risk and protective factors in order to facilitate or hinder engagement (Fig. 11.2).

A context of autonomy enabled the young people to feel they could express themselves in terms of their own interests and choices and featured as important for re-engagement. A supportive mentor emerged as an essential protective factor in creating the context of autonomy despite the secure setting. They were also vital in enabling the access to resources, such as the internet, books or stationary and time to engage in their authentic inquiry. However, the absence of or a poor mentor also acted as a risk factor. Task value is a term associated with the expectancy-value theory ((Eccles & Wigfield, 2002) and is based on the degree to which one expects to succeed (expectancy) and the value one places on the task itself (value). In the case

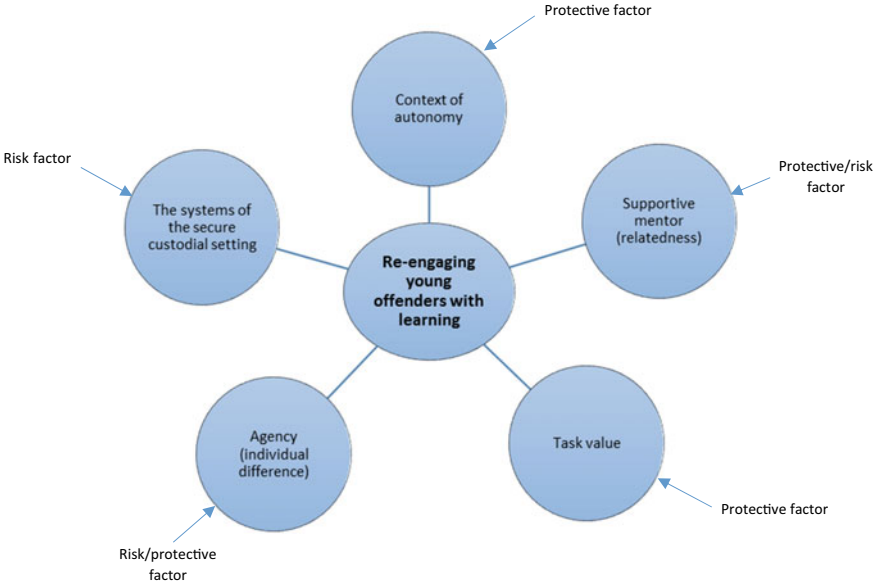

Fig. 11.2 The conditions which can act as protective and risk factors for resilience in engaging with education in a secure custodial setting

studies task value was an important protective factor for the individual to engage, however, task value alone was insufficient. For example, the lack of a supportive mentor meant that the resources and support needed for continued engagement were absent and so the task had no value.

All participants demonstrated agency by agreeing to participate. However, agency was demonstrated to varying degrees and, depended on the other conditions being favourable. The organisational features compounded by the locked and secure nature of this environment presented as a major risk factor to re-engaging young offenders with education and learning and these represented challenges that were difficult for some of the young people to overcome. The DIMoR model presented by ahmed Shafi et al. (2020) provides a useful framework to be able to visualise some of these structures and interaction. This is embodied in the case of Jeremy, which illustrates some of these conditions.

The Case of Jeremy

The case of Jeremy who was one of the five case studies and illustrates these conditions in the context of the DIMoR model. Jeremy was 16 years old born in Britain and of mixed European heritage. He was serving a long-term sentence (18 + months) for manslaughter with no previous known offence. Staff described Jeremy as polite

and generally non-disruptive but arrogant and un-cooperative, though never aggressive; intelligent, but not engaged with the education provision, often refusing to answer questions, participate in activities and daydreaming. Jeremy had dropped out of school well before he was convicted.

Once Jeremy had decided that the AI task was of value, relevant to him (his AI was on conspiracy theories) and he was already confident in his abilities, Jeremy was engaged and he was resilient to the setbacks that occurred due to the constraints of the setting. When asked how he was getting on after starting his authentic inquiry, his response was:

> It's going very well! I'm almost finished […] and I'm researching on the internet about conspiracy theories and trying to find some way to put it into something like a workbook or some sort of documentation so I can explain to people, I guess, but I'm just trying to get it organised. (Jeremy, aged 16)

Jeremy demonstrated enthusiasm, passion, agency, effort, action and planning with an awareness of challenges—all indicators of behavioural and emotional engagement as per Skinner et al. (2008) model of engagement. Reeve and Tseng (2011) point out, learners do not just react to learning, but pro-act too. Jeremy demonstrated that he was pro-active which was the driving force in shaping his learning, resulting in his actions being intentional, proactive and constructive—indicators of engagement and acted as the agentic element needed for him to be resilient and shape his trajectory and in some ways change the system as he demanded time with his mentor. Jeremy's engagement with his authentic inquiry demonstrated that even a disengaged, disillusioned and disaffected learner can be re-engaged with education and learning within a relatively short space of time. That Jeremy could navigate a range of setbacks in order to achieve his aims was evident and reflects Downes' (2017) view of individual agency and appraisal of a situation which depended on the relational space.

However, whilst Jeremy engaged for a relatively long while, he was still a fragile learner and experienced barriers (risks) which challenged his resilience. Initially, driven by excitement, he was able to overcome these, however persistent setbacks impacted him emotionally. For example, he felt embarrassed when he could not fulfil what he believed to be his obligation and therefore he disengaged in the process and was not able to navigate (be resilient) the structural constraints for much longer. This reflects Ungar's (2013) notion of equifinality whereby in certain circumstances one system or another can be more influential to the outcome. At one point, it was the opportunity to engage and then it was the limitations of the secure system. Jeremy's frustrations were directed at the Head Teacher as the authority figure, demonstrating his awareness of the structure of the context that had prevented him from persevering. Teachers and Head Teachers also pointed to the context, its systems and structures as a key challenge in offering the opportunities needed to engage or maintain engagement of their pupils. The invulnerability and rigidity of the secure system had made it challenging for Jeremy. Combined with his own individual vulnerability in terms of his desire to appear successful, this became a risk factor. Whilst the opportunity to engage with a genuine learning opportunity was a protective factor, combined with

the relationship with his mentor, the risk factors became too great and hence Jeremy's emergent resilience was not sufficient for him to feel that he had succeeded. Jeremy thus abandoned the authentic inquiry and disengaged. This illustrates the notion of the differential impact in Ungar's work where different factors can have different impacts in different contexts. Jeremy's case also illustrated how he had attempted to be autonomous and agentic and show resilience in his learning, however he was overcome by the invulnerability of the setting and his own vulnerability. This case demonstrated how an individual can be resilient but that they can also be worn down by cumulative and perpetual risk factors. Using the DIMoR model could have enabled the setting to map out the risk and protective factors and consider what can be fostered/overcome within the structures of those aspects that cannot be changed. This could have enabled a holistic and system view of the situation that Jeremy was in so that his emerging resilience may have been further developed. Instead, it was quashed.

The DIMoR in Practice

The DIMoR offers a way to map the risk-protective/vulnerability-invulnerability factors within any particular context. This enables an organisation to assess which areas they may be able to focus upon in order to foster educational resilience even within a secure custodial setting. It enables an organisation to consider both its own organisational features as well as other external systems that it also interacts with. In doing so, it provides an opportunity for leaders to consider how and where interventions may be best targeted. For example, one of the biggest risks in the case of Jeremy was the lack of being timetabled to work with his mentor and access resources. This was due to the line management issues between education and care staff. Creating a more coherent and unified approach could eradicate this problem and facilitate the relationships, the absence of which are a risk factor in resilience. This enables the protective relationship to detect and respond to individual vulnerabilities so they do not obstruct the learner. At the same time, this would address the invulnerabilities of the overall organisation and what can be done to manage this, whilst complying with their external obligations as a custodial youth justice setting.

In using the approach suggested by ahmed Shafi et al. (2020) DIMoR approach a setting is enabled in examining some of the complexities of their organisation, its structures and how all these interact with the people in the system and other systems. In doing so, it is possible to create a rich picture of the range of dynamic interactive systems in any given setting and how these may be maximised (or minimised) through the use of 'intelligent' interventions. At present many interventions are employed without due regard to the complexity of the systems within which they are to be used and then all too quickly discarded or credited with having made a difference without fully understanding how it has worked/not worked. Using the DIMoR model can enable a secure custodial setting to maximise the time that young people have

in custody and the opportunities that it can afford in terms of re-engaging them with education and learning.

Conclusion

This chapter has considered how the dynamic interactive model of resilience proposed by ahmed Shafi et al. (2020) built on the established ideas and theories of Gilligan (2004), Ungar (2013), Bronfenbrenner (1979) and Downes (2017) can help identify the dynamic interactions of organisational and individual risk-protective factors. This provides the opportunity to position them as they are, situated within the secure custodial system, wider systems of youth justice, policy and wider still, cultural contexts. This enables one to build a much more complete and complex picture of any given system and the range of dynamic interactions. In doing so, there is a greater scope for identifying the best form of interventions and at which levels in order to enable young people to develop a resilient approach to life and its challenges.

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Chapter 12
Developing an Emergent Resilience Through Self-Organised Learning Environments

Jenny Hatley

Abstract Resilience can be seen as an emergent property resulting from reciprocal interactions in complex systems. Self-Organised Learning Environments (SOLE) are a complex system which foster an emergent learning. This chapter considers whether SOLE can be used to also foster an emergent resilience. The internet is a central component of this system but its potential increase in use carries concerns about the additional online risk young people may be exposed to. This chapter discusses the nature of risk aversion and that exposure to some measure of risk is necessary for the development of resilience. Three further factors which are important for the development of resilience are explored which are social capital, a sense of agency and autonomy. These three factors and the exposure to some risk have implications for pedagogy. The use of SOLE to foster these factors, potentially developing both an emergent resilience and an emergent learning, can assist educators when helping young people to develop individual resilience.

Case Study—Using SOLE in Higher Education with 2nd Year Undergraduate Students

During a module on the Education Studies degree course which examined a range of contemporary issues within education, a session was delivered using a Self-Organised Learning Environment (SOLE). Prior to the SOLE, the module itself had taught several skills encouraging the students to take a critical approach to information in the context of issues they had chosen, such as whether there is a gender bias in education, whether school choice is socially just and whether higher education should be free for all. It was hoped that with the freedom and independence afforded by the SOLE pedagogy, that students would utilise their critical skills to look deeply into their topic, achieving lasting learning. However, it was also clear that in general, students of this age found it difficult to take risks in their learning and wanted reassurance and structure to guide them towards the 'right' answer; so it was uncertain whether they would be able to take advantage of, and subsequently experience, all that SOLE promised. Would they be able to work independently, work well together, be critical in their approach and manage their learning without the direct instruction and guidance from the lecturer?

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This chapter picks up the concept of resilience discussed in Chap. 2 and focuses on resilience as emerging from reciprocal interactions between and within systems, where the reciprocity can influence the trajectory of individual resilience. In this chapter, the internet is located within the DIMoR's web of ecological systems (ahmed Shafi, et al., 2020) and as such permeates all layers of Bronfenbrenner's micro-meso-exo and macro systems and is mindful of person, place, context and time (PPCT) (Bronfenbrenner & Morris, 2007). The internet is also considered a central component of the complex system of a Self-Organised learning Environment (Mitra, 2014). This chapter discusses the role of self-organised learning environments (SOLE) (Mitra, 2014) in facilitating an emergent resilience.

This chapter presents a discussion on the potential contribution of SOLE to the fostering of resilience in the context of formal education environments which include schools and universities. This discussion was stimulated by the above case study and the feedback sought from the students after the SOLE had ended. After their use of SOLE, they reported that they needed to 'choose information, judge sources, be involved, analyse, synthesise and use critical skills' and asserted that they 'use so many more skills than a traditional lecture [meaning an interactive yet predominantly didactic teaching approach], SOLE helps it stick'. They also discussed their sense of autonomy in choosing their sources rather than having the lecturer provide them. This feedback is reminiscent of some of the factors that promote resilience (including self-efficacy, autonomy, taking responsibility and personal agency, discussed in Chap. 2). This provided the springboard for an exploration of whether and how SOLE may foster resilience, which this chapter presents.

Firstly, the concept of SOLE is explored with the emergent nature of learning being compared to the emergent nature of resilience. Secondly, the internet is discussed in relation to risk and resilience. Following this a discussion of 'negative affects' and 'promotive factors' (Wisniewski, 2015), situates the internet and SOLE within current debates, including about the nature of risk aversion, and picks up the assertion from Chap. 2 that a certain amount of risk exposure is necessary to develop resilience. Finally, implications for pedagogy are highlighted such that the SOLE environment can be used not only for emergent learning, but for emergent resilience as well.

SOLE, Complexity and Resilience

Suggested as a 'new approach to primary education' Self-organised learning environments are challenging traditional notions of pedagogy (Mitra, 2014, p. 547). Using the internet as a provider of content, the teacher's role is no longer to be the provider of knowledge but the facilitator and encourager of learning that emerges when groups use the internet to answer 'Big Questions'. Big Questions 'are the ones that don't have an easy answer. They are often open and difficult; they may even be unanswerable. The aim is to encourage deep and long conversations, rather than finding easy answers' (School in the Cloud, 2019). Examples of Big Questions include 'Is life on Earth sustainable?' and 'How do my eyes know to cry when I'm sad?' (Mitra, 2015,

p. 18). As Mitra states 'groups of children can learn almost anything by themselves using the internet' (Mitra, 2014, p. 549). Further, the teacher is not to intervene in the learning but act as observer, allowing learning to happen. That learning just 'happens' is reminiscent of the science of emergence which is part of complexity. 'Emergence, a common phenomenon in nature, is the appearance of properties that are not evident in the parts of a system' (Mitra, 2014, p. 556). SOLE as a system of individual components consists of the learners, the internet and—to maximise the learning—an encouraging but non-interventionist 'other', all of which form part of the DIMoR's web of interrelating systems (ahmed Shafi et al., 2020). The amount of computers is restricted to about a quarter of the number of learners so that they have to form groups. The groups are fluid. Learners can interact within and across groups, so the group's structure and size changes. This creates what Mitra (2014) terms an 'edge of chaos' effect which is a state that is 'neither strictly ordered nor completely chaotic' (Mitra, 2014, p. 556). This is very important for emergent behaviour to occur which, as Mitra further states, 'it indeed does, frequently' (Mitra, 2014, p. 556). Being on the edge of chaos means that the environment has become self-organising. This has an effect of 'downward causation' (CALResCo, 2007)—what has emerged from the dynamics of the system exerts an effect on the individual components. In the case of a SOLE, the emergent learning has an educative effect on the individual learner and different groups of learners within the overall system of the learning environment. This has been described as a 'SOLE contagion' which creates a positive norm for educational growth (Weisblat & McClellan, 2017, p. 311).

SOLE can be described as a dynamic reciprocal system where each part interacts with the other which exemplifies the DIMoR (ahmed Shafi et al., 2020). Because emergence occurs within a self-organised complex system and SOLE is such a system, and if resilience is also an emergent property which Rutter further situates as a dynamic process (Rutter, 2013) and Ungar (2013, p. 349) states develops from 'children's interactions with multiple reciprocating systems', how can an emergent resilience be fostered such that it has a downward causal effect on the individuals and groups within the learning environment? In other words, how can SOLE foster resilience?

Research highlights a number of factors which are important in the fostering of resilience. This chapter will focus on three: social capital (Southwick et al., 2014), a sense of agency (Downes, 2017) and autonomy (Rutter, 2013), each of which will also be explored in relation to pedagogy later in the chapter. If SOLE is going to allow resilience to emerge and achieve the downward causation necessary to affect an individual's and group's resilience, these factors are ones which need to have a high chance of being present within a SOLE so that they can feed into the reciprocal interactions of the system. From the aforementioned feedback from undergraduate students resulting from the case study above, this seems likely. Social capital is important for building resilience (Southwick et al., 2014; Rutter, 2013). This is exemplified by Bonanno who, in his discussion of Super Storm Sandy, describes the way in which texting between individuals became vital for keeping lines of communication open, receiving updates and gaining knowledge of where resources were located (Bonanno in Southwick et al., 2014, p. 8). He states that this social capital was of 'crucial

importance' in helping people cope with adversity. This would have contributed to their resilience. Rutter (2013) also highlights the importance of social capital for the building of resilience. He states that 'interventions need to serve the provision of good social relationships…they are best acquired through relevant experiences that are guided but not instructed' (Rutter, 2013, p. 483). SOLE can be considered one such experience. It is a 'shared social experience' which 'provides new opportunities for social connectivity' (Weisblatt & McCellan, 2017, p. 310). The teacher guides the experience of the SOLE, they do not instruct it. SOLE can develop social capital which in turn may foster resilience.

Another factor important to the fostering of resilience is a sense of personal agency in which one is able to act to improve one's situation (Werner, 1993; Rutter, 2013; Downes, 2017). Werner (1993) suggests that this is most effective in the context of social relationships and cooperation with others, reinforcing the importance of developing social capital. Further, Rutter (2013) describes factors including 'being able to take responsibility, exercise a degree of autonomy, and have the opportunity of learning from their own mistakes' as factors important to developing resilience (Rutter, 2013, p. 482). Weisblatt and McClellan (2017, p. 311) describe how SOLE facilitates these factors. They highlight increasing personal agency through the change in a student's self-identity occurring as a result of seeing themselves as 'architects of their own [learning] journeys'; they state that community is changed and sustained as students increasingly become citizens of their environment, increasing social capital; they highlight that students take responsibility for their learning; that SOLE allows learning from failure; and that the teacher is enabled to emphasise student relationships and growth, further building social capital and community citizenship, rather than focusing solely on delivering content. An example of how SOLE builds community citizenship, social capital and self-efficacy can be seen through the work of Sanjay Fernandes who is using SOLE with ex-combatants and child soldiers in Colombia, most of whom have never turned on a computer, to 'foster trust and curiosity in communities' and combat isolation so that they may build a future of peace (Healy, 2018, p. 27). The benefits of SOLE reported by Weisblatt and McClellan (2017) across a range of educational contexts and those reported by Fernandez in his peacebuilding initiative (Healy, 2018) align with research on resilience and echo the feedback from my own undergraduate students. It would seem possible that inputting these factors into the complex system of SOLE and its reciprocal interactions may increase the likelihood that resilience will be an emergent property of a SOLE with subsequent downward causation to the individual and groups.

The Internet, Risk and Resilience

The use of SOLE requires the use of the internet as a central tool. The use of the internet in the lives of young people has caused concern in some areas which highlight the risks that it, and the subsequent increase in screen time, may carry. The prevalence of these risks in media coverage (Hern, 2019; Davis, 2019; Walton, 2018; Dunckley,

2015) may present a limiting factor to practitioner's use of SOLE and subsequently the potential fostering of resilience, and therefore warrants discussion.

In the case of screen time, one of the health complaints that is often mooted is a rise in obesity. The use of screens is often demonised as the cause of obesity. However, it is not the screen itself but the increased sedentary lifestyles many 'screenagers' adopt due to the increased amount of time they spend interacting online that is suggested as the problem (Griffiths, 2010). Indeed, some concerns about the rise in screen use may be seen as a moral panic. Campos et al. (2005) inform that 'moral panics are typical during times of rapid social change and involve an exaggeration or fabrication of risks…'. The moral panic is both assisted and exemplified by media headlines where the dangers of screen time range from causing a 'global epidemic of blindness' (Kekatos, 2017) to causing depression in children (Burrell, 2013). Stiglic and Viner (2018) carried out a systematic review of evidence on the effects of screen time on children and young people's health and well-being and found inconsistent results. They state that 'a prominent group of scientists recently argued that messages that screens are inherently harmful is simply not supported by solid research and evidence' (Stiglic & Viner, 2018, p. 14). Further, the evidence they looked at also focused mainly on TV screens and as they acknowledge, the research on the use of mobile technology or computer screens and also the influence of the types of content they are used to access, such as educational content, is currently lacking. To date, the best advice seems centred around the need to balance screen time with other 'positive activities (socialising, exercise, sleep)' which may be displaced by screen time (Viner et al., 2019, p. 6). Applied to SOLE in formal educational environments, this suggests that there is no evidence that increased use of screens to access the internet will have any adverse effects; especially when balanced against other positive activities which can promote social capital and exercise, such as university sports clubs, school playtimes and lessons in Physical Education.

In the case of increased internet use, concerns centre around increased exposure to online risks. These include sexual images, online bullying, sexting and meeting new online contacts offline (Livingstone, 2013), with many fearing that simply being exposed to the risk and seeing such content will cause harm. However, it should be noted that there is not a single response to online risk and exposure to online risk does not automatically equate to harm (Livingstone, 2013). There are various dependent factors including social context and stage of development plus existing levels of resilience pre-risk exposure which will moderate the potential harm done by online risks. Concerns about online risk encompass 'negative affect' (Wisniewski, 2015). Negative affect is a reaction of displeasure when experiencing online risk that might include 'anger, contempt, disgust, guilt, fear, and nervousness…and is associated with anxiety, stress, poor coping, and health complaints' (Wisniewski 2015, p. 4031). In contrast to Wisneiwski's (2015) negative affect and associated negative outcomes, resilience is considered a 'promotive factor' that 'can moderate the relationship between risk exposure and a negative outcome, either by neutralising the relationship between the two, or weakening it' (Wisniewski, 2015, p. 4031). In other words, resilience can significantly reduce negative affect or reduce any harm done when risks are experienced. Resilience has a key role to play in enabling young

people to not only cope with the online risks they may experience but also to enable them to thrive in spite of the risks they experience. Everyone is different and each person will experience online risk differently. That said, whilst each person may experience negative affects to a greater or lesser degree, all young people will benefit from developing the promotive factor of resilience.

A potential hindrance to the development of resilience is the way in which adults may attempt to eliminate risk altogether, believing that this will keep young people safe. The advice often given to young people when they have experienced negative affect, is to just stop using the website or device. Further, schools often have strict filters in place designed to eliminate young people's exposure to risk, also believing that this is keeping them safe. Solutions are often targeted towards restriction and risk prevention (Wisniewski, 2015). But there is a danger that overly restrictive behaviours may trigger 'deeper psychological problems' if underlying needs for 'social interaction, acceptance and support' are not addressed (Wisniewski, 2015, p. 4034). After all, these may be the needs which led to using the internet in the first place. Yet it is unrealistic to expect that adults can eliminate young people's exposure to online risk entirely or indeed whether they should. If young people are never exposed to risks online, how are they to learn ways to deal with it constructively? Indeed, some children become resilient 'precisely because of their exposure to a degree of risk' (Livingstone et al., 2011, p. 144). Further, how are they to develop the skills needed to self-regulate the emotions that may occur through negative affect, a key factor in developing resilience? (Ungar, 2013). A way forward through the potential moral panic, fear and uncertainty may lie in a balance between risk and protection (Rutter, 2013). Solutions could be offered that enable risk management, not risk avoidance. Otherwise, there is a danger that young people are denied the opportunity to develop the promotive factor of resilience that can help them moderate negative affect, because the adult desire to keep them safe drives their experience of exposure to online risks.

This is not to suggest that there should be no filtering of online content in schools allowing young people to experience whatever content is delivered, but neither should filter systems or other risk prevention measures be so strict that 'there is no scope for participants to try out their own ideas and to learn from their own mistakes', in other words to foster their resilience (Rutter, 2013, p. 483). What can likely foster their resilience, is 'controlled exposure to manageable challenge' [in this case online risk] rather than its avoidance (Rutter, 2013, p. 484). The fostering of resilience in order to mediate the possible negative affect of online risk exposure is important. As discussed above, resilience can moderate negative affect if it is present before risk exposure. Resilience can be proactive and have a somewhat feed-forward effect on future risk experience. Wisneiwski (2015, p. 4031) describes this proactive resilience as having an 'inoculation effect, where past negative experiences may facilitate the development of coping strategies, which can directly influence adolescents' future online activities and behaviours, including avoidance of or protection against online risk'. This thinking illustrates the dynamic nature of the interaction between resilience and online risk exposure.

The factors that foster resilience can form part of the dynamics of SOLE. Due to its complex systemic nature, SOLE may potentially enable resilience to become an emergent property with a downward causal effect on individuals, which can help to inoculate them against online risk and mitigate negative affect. This will be influenced by how a SOLE is run which brings us to a discussion of elements of pedagogy which may be beneficial to the success of SOLE in fostering resilience.

Implications for Pedagogy

As discussed, with the internet as a provider of content the teacher's role is no longer to be the provider of knowledge but the encourager of learning that emerges when groups use the internet to answer 'Big Questions' (School in the Cloud, 2019). The groups of learners are fluid—learners can interact within and across groups, so the group's structure and size changes. This creates the 'edge of chaos effect' and is the state of maximum information (Mitra, 2014, p. 556). The edge of chaos effect should be maintained for emergence of learning to occur. This effect, mediated by the way a SOLE is delivered, can also potentially increase the likelihood of an emergent resilience (ahmed Shafi et al., 2020). Teachers, through their pedagogy, can facilitate the factors that are known to foster resilience, enabling them to become part of the complex reciprocal interactions within the system of SOLE. Therefore teachers, as part of their guidance and encouragement of the SOLE experience, need to promote social capital, autonomy and a sense of personal agency. These factors are also shown to deepen learning, suggestive of an already complex and possibly reciprocal interaction between learning and resilience. The factors which foster resilience are now considered in turn.

Social Capital

As stated by Salloum et al. (2018, p. 282) 'Social capital resides in the quality of social relations'. The characteristics of social capital include trust, respect, affection (Ergün et al., 2018, p. 106) and supportive relational networks (Salloum et al., 2018) all of which are said to enhance student learning and as we have seen, social capital is also important in fostering resilience. Salloum et al. (2018) also confirm the importance of trust, calling it 'social trust' (Salloum et al., 2018, p. 283) which, expanded by Li and Choi (2013, p. 3), is important for 'reciprocal action, mutual support…and collective endeavour'. These are ingredients of a successful SOLE as learners act together and engage in reciprocal interactions to answer Big Questions as part of a group collective action. As Li and Choi (2013, p. 3) further state, 'social trust creates a context of predictability and stability for genuine, open dialogues, as well as for critical reflection and risk taking when individuals are confronted with the need for change'. The exploration of Big Questions will often include the need to

take risks and critically reflect on previously held understanding in order to learn and, when working together, genuine open dialogue is understandably important between learners and between learners and teacher. Ergün et al. (2018) also name respect as part of social capital. Whilst what it means to show respect will vary from person to person, Goldson (2018, p. 587) states that part of respect is recognition, aligning this with teacher behaviour by stating that 'a teacher must recognise a student's needs, even if the teacher cannot actually meet them' (Goldson, 2018, p. 587). In terms of pedagogy, the teacher may facilitate the building of social trust by explicitly recognising a student's needs in order to show respect, encourage and ensure respectful relationships between learners, encourage risk taking in learning perhaps by asking questions which take learners into Vygotsky's zone of proximal development and encourage open dialogue between learners. Vygotsky's theory forms the basis of much current pedagogical practice, as does the encouragement of respectful relationships, but the importance of these skills for SOLE is to use them explicitly in this context so that they become part of the complex reciprocal system which can foster not just an emergent learning but an emergent resilience (ahmed Shafi et al., 2020), with associated downward causation to the individual.

Autonomy

In addition to social capital, as stated, autonomy is also important to foster resilience. Autonomy is 'freedom from external control', linked to learners having a say in their education (Goldson, 2018, p. 592). Notwithstanding the teacher's need to maintain some control over the learning environment in order to ensure student safety and so forth, SOLE does provide a measure of autonomy in the learner's choice of which Big Question to pursue, which sources to use on the internet and which group(s) to work with. The feedback given by the undergraduate students in the case study supports this. They reported the sense of autonomy that they experienced through SOLE, plus their sense of involvement with the group and use of critical skills; also supporting the existence of social trust. The teacher can encourage this autonomy throughout a SOLE session by reminding learners that the groups are fluid and they can make a choice to pursue learning that is of interest to them. Inherent in autonomy, is the teacher's trust that learners know how to learn (Sennett, 2003 in Goldson, 2018), reminiscent of Mitra's assertion that teachers should 'get out of their way' during a SOLE and allow learning to emerge, rather than directly intervening in the learning (Mitra, 2014, p. 552). This is challenging to traditional notions of pedagogy that imbue the teacher as the one in charge, in control and as the knower. Perhaps this requires the teacher to embrace the challenge of teaching differently.

Agency

So far we have seen how social capital and autonomy, two factors that foster resilience, can be present within a SOLE with implications for pedagogy. The third factor under consideration is agency. Goddard (2000, p. 688) defines agency as 'the intentional pursuit of a course of action'; the behaviour in SOLE can be considered agentic when learners purposefully pursue answers to Big Questions. Davis and Singh (2015, p. 73) further state that a sense of agency develops when learners feel a personal connection to what they are learning and are recognised as 'competent, valued contributors within the community of practice'. Related to autonomy, this reinforces the need for teachers to trust that their learners know how to learn. In terms of pedagogy, teachers can foster agency by encouraging learners to reflect on how their learning may relate to their real-life contexts such that learners derive personal meaning from their experience.

The factors that foster resilience may be encouraged within SOLE through a teacher's pedagogy. Whilst many of these pedagogical recommendations may currently be considered simply part of effective teaching, explicitly doing so in SOLE sessions will input these factors into the complex dynamic system of SOLE such that resilience may emerge and create downward causation to the individual learner, influencing their resilience trajectory. After all, 'resilient children and youth are often those who have teachers who accept, respect and trust them, as well as those who are provided opportunities to express themselves inside institutional settings' (Ungar, 2013, p. 353). However, as discussed, it is also important to be mindful of the need to balance risk and protection (Rutter, 2013) when using the internet and teachers need to adopt an approach of risk management, not risk avoidance. This is accompanied with an understanding that a certain amount of risk exposure is necessary to the building of resilience. Teachers can be reassured that exposure to risk online does not necessarily equate to harm, and as long as they are confident in helping learners navigate any initial 'negative affects' they may experience (Wisniewski, 2015), then learners may become inoculated against experiencing negative effects when exposed to future risk.

This chapter has presented an exploration of the contribution SOLE may make to the fostering of resilience in formal educational environments and considered the DIMoR (ahmed Shafi et al., 2020) as a lens through which to think of its interrelating systems. It is acknowledged that classrooms and the formal institutions they exist within are themselves complex environments with many intersecting factors influencing success, but the focus here has been on the environment of SOLE as a complex reciprocal system and the factors which may facilitate an emergent resilience within it. However, alongside viewing SOLE in the context of the DIMoR (ahmed Shafi et al., 2020), the model can also provide a lens through which to consider these wider factors. Further research is needed to consider that in more detail, and to provide the evidence base for an emergent resilience within SOLE, however this chapter has provided a discussion regarding the use of SOLE to potentially enable an emergent resilience and is positioned as a contribution to current debates on these issues.

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Part III
Looking Forwards

Chapter 13
A Rounder Sense of Purpose: Educator Competences for Sustainability *and* Resilience

Richard Millican and Paul Vare

Abstract This chapter takes the premise that, in order to create a sustainable world, we need to repurpose and refocus the education system to better equip individuals with the ability to recognise what changes need to be made to move towards sustainability and then how to participate in the implementation of these changes. It argues that there is a close link between sustainability and resilience and that by equipping individuals in this way not only helps to create a sustainable and resilient world, but one in which resilient societies and individuals will emerge. It reports on an Erasmus project, A Rounder Sense of Purpose, that developed a set of educator competences for sustainability designed to help facilitate this process through appropriately trained educators. It then uses the Dynamic Interactive Model of Resilience (DIMoR) (ahmed Shafi et al., 2020) to analyse the role of the competences and to illustrate how they can help develop individual, societal and biodiversity protection and thus in the emergence of resilience.

Introduction

This chapter builds on themes introduced elsewhere in the book. It takes as a premise that resilience is needed—by individuals to cope with and act within a stressful and changing education system and with and within rapidly changing societies, and by individuals *and* societies to deal with environmental change and the climate emergency (Chap. 1). However, as previously discussed, (see Chaps. 4 and 5) one perspective is that resilience can be considered as something that is needed to cope with what is, and thus needs to be taught or added eg strategies given to an individual to help them deal with stress, or something done to a society to help it deal with the impact of climate change eg construct a higher sea defence wall, or find a fall back

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supply of energy in case one fails. This can be considered as resilience *for* education, or resilience *for* life. This, however, suggests a fatalistic approach to the status quo and a passive acceptance. An alternative perspective is to think of education and societies as being structured in such a way that they do not demand resilience to be able to cope with them, but that they generate resilience in stakeholders at various levels through the process of education and the interactions that occur as part of this, and through the way that society is structured and acts (see Chaps. 3, 4 and 5). In other words, resilience emerges *through, or because of,* education and *through, or because of,* societal processes. It encourages actors to take a proactive, agentic, role in turn in creating education and societies that are conducive to the development of resilience.

The challenge is however, how to arrive at that point. In much of the world there is a long-standing tradition of education, democratic processes and economic theory and yet we have arrived at a situation where individual and societal health and wellbeing are threatened and the planetary systems that support and provide for human life forms are also at risk (see Chap. 1). If we take these threats seriously, then this suggests that something needs to change, that perhaps education needs to be refocused and repurposed and that our individual and collective actions and behaviours need to be scrutinised and evaluated through a lens that considers whether they are damaging other individuals, societies and/or the environment, or are constructive and helpful—therefore judging as to whether they are sustainable actions which are helping to build individual, societal and ecological resilience.

The chapter reports on a European Erasmus plus project 'A Rounder Sense of Purpose' (RSP) that was designed to consider this by focusing on educators and the competences they would need in order to be educators for sustainable development. In other words, if education were to be considered as an engine or catalyst for change towards creating a sustainable and resilient world of resilient societies and individuals, what abilities would the educators need to be able to facilitate this. The chapter will present the framework of competences that was the outcome of this work and present its heritage and rationale. It will then analyse the result using the Dynamic Interactive Model of Resilience (DIMoR) (ahmed Shafi et al., 2020) to show how such an approach to education can help create resilient individuals, structures and societies and thereby contribute towards creating a sustainable world.

The Project

Some Context

Over the last century and particularly since the 1950s (see for example Carson, 1962), there has been growing unease and concern about the impact of human activity on the environment. The epoch in which humans have been roaming the planet and exploiting nature for benefit has been dubbed the Anthropocene (see for example

Lewis & Maslin, 2018). Human nature and ingenuity is such that as a species we are constantly looking to explore and discover and to develop, progress and improve (Harari, 2015). This has clearly led to myriad exciting inventions and innovations that have enabled us to live longer and more healthily and in a way that is less labour intensive.

However, during this process, we have also been growing in number and as the human population increases, so have our expectations for food, housing, healthcare, comfort, travel and entertainment and this intensifies pressures on land use and production as we look to produce greater amounts to satisfy demand and endeavour to do so ever more efficiently and cheaply. This accelerating demand means the date at which we consume the Earth's annual supply of replenishable resources each year is getting steadily earlier and, at the time of writing, was 29th July for 2019 (https://www.overshootday.org/about/).

The planet has been able to absorb and cope with much of this and has allowed us to continue to capitalise on its resources and exploit the potential provided. However, the signs that this is placing strain on planetary systems is increasingly evident and much research draws our attention towards melting ice caps, rising sea levels, increasing global temperature, species extinction, desertification and extreme weather conditions. In short, a climate and environmental crisis caused by human activity (see for example International Panel on Climate Change (IPCC) reports at https://www.ipcc.ch/about/).

It thus seems evident that things are going to change. This change could be forced upon us as ecological systems that we rely on break down or material resources run out, or we face up to the challenges ahead of us and work to avoid and mitigate where possible and prepare to deal with them where not.

However, this would take a radical shift in individual and societal attitude and approach whereby we accept the stresses we are creating, embrace the need to look for new ways of being and search for mechanisms that allow us to live in such a manner that does not rely on constant economic growth but has individual, collective and planetary health and wellbeing as a focus. In other words, it seeks to build sustainable and resilient individuals and societies.

The Role of Education

The world is constantly changing and at an ever-increasing rate (see Chap. 1), but any change is predominantly based on the same fundamental principles that are mostly emanating from Western civilisations. These principles are underpinned by capitalist ideology and assumes that planetary resources are there for our use and for us to exploit in pursuit of wealth creation and accumulation (Moore, 2016). However, whilst this system has worked effectively in many ways, the profit motive has a tendency, if not unchecked, to lead to short termism and a belief that the planet can keep providing allowing us to continue to take, make, use and dump and to continue

to grow and find new markets without factoring in and giving due consideration to environmental and social costs.

To change economic and social principles that have evolved over centuries will not be easy to achieve and if that change is to be a managed process rather than forced, it will be harder still. If it *is* to be managed and led by us in a conscious and deliberate way, then that means a change in our thinking and understanding—what Freire might call conscientisation (1972). A large influence on the way we think and understand the world comes from our education.

Much has been written about the purpose of education, but a crude distinction comes between (a) the idea that it is there to protect and perpetuate current societal values and practices and to preserve the status quo and (b) that it is there to encourage free and critical thought and thereby act as an instigator and engine of change. Arguably, much of Western education has been based on the former as it has focused on producing engineers, business leaders and workers able to fit into existing systems and to continue to produce efficiently and effectively to maximise profit using similar business and economic models (see for example Bates & Lewis, 2009; Curtis & Pettigrew, 2009; Marples, 2010).

So, if we accept that we are damaging the planet's support systems and threatening their, and consequently our, ability to be resilient and that we thus need to find sustainable ways of living, then there is a compelling argument to change the focus of education—to repurpose it so that people develop a different consciousness that encourages them to adopt a critical eye that is looking at our actions, structures and behaviours through a sustainability lens to see if they need to change in order to move towards a sustainable world, or at least to mitigate against the worst of climate disaster.

The Purpose of the Project

There have been a number of initiatives that have attempted to address this issue and to encourage thought and care for the environment through, for example, Environmental Education (EE), Education for Sustainable Development (ESD), Learning for Sustainability (LfS) and the Eco-Schools movement (https://www.eco-schools.org.uk/). More recent examples have focused on teacher education and there have been various attempts to produce frameworks that can guide and inform initial and in-service training. Perhaps the most notable of these was the United Nations Economic Commission for Europe (UNECE) Competences in Education for Sustainable Development (2011).

Whilst these efforts have all had some impact, recent government policy in the UK has been to side-line sustainability education and much headway that was made is now starting to lose traction (see Vare, 2014). Aside from the influence of governmental policy, another barrier to the widespread adoption of the UNECE competences was the fact that there are 39 of them which is, perhaps, over-complicated and unwieldy.

With this in mind, the Rounder Sense of Purpose Erasmus plus project was established with the aim of creating a simplified, distilled, user-friendly set of educator competences that built on the work that had gone before. Competences that could be used with and for different contexts and that developed educator ability to educate for sustainable development and, therefore, resilience.

The project was led by the University of Gloucestershire who worked in partnership with Tallinn University, Estonia; Duurzame PABO, The Netherlands; Italian Association of Sustainability Science, Italy; Frederick University, Cyprus; and the Hungarian Research Teachers' Association, Hungary. It was a 3 year project that, as well as creating a set of educator competences, aimed to design a pan-European qualification in Education for Sustainable Development.

Project Outcomes

The process for creating the educator competences was a rigorous one. It began with a careful reading of the UNECE competences and a distillation process in which statements with similar learning outcomes were matched together. New labels were given to the matched statements that encapsulated the essence of each competence and then the result was compared to other frameworks to search for any concepts that were missing. This was an iterative process that involved not only the six project partners, but consultation with experts from each of the partner countries.

A new set of 12 competences emerged that continued to fit into the UNECE framework of three columns and four rows. These were tested through a Delphi research procedure and trialled in different contexts. Results were shared and gradually a consensus formed around the content and wording of the competences. The final 12 were: Systems, Futures, Participation, Attentiveness, Empathy, Engagement, Transdisciplinarity, Innovation, Action, Criticality, Responsibility and Decisiveness. The three columns were entitled 'Holistic Approach', 'Envisioning Change' and 'Achieving Transformation' and the rows 'Integration', 'Involvement', 'Practice' and 'Reflection'.

Whilst the table form conveyed its UNECE heritage and had a neatness to it, there was concern that such a presentation suggested that the competences were separate and distinct and would be used in isolation. This was not the intention as clearly there was overlap between them and it was evident that in practice they would, and should, be employed flexibly and in different combinations. Different designs for representation were experimented with until agreement settled on the image of an artist's palette with the competences represented as different coloured paint that could be combined and used differently for different purposes.

The project team were pleased with the outcome of the work around the competence framework, but to achieve a pan-European qualification for Educators of Sustainable Development proved more problematic as (a) it was difficult to find an awarding body that was recognised in all participating countries and (b) each partner had different ambitions in terms of level and size of the award and as to which sector eg primary, or secondary it would focus towards. It was thus agreed that rather than attempt to create a single, one size fits all qualification, a more valuable approach was to use the framework as something to inform, guide and underpin qualifications and training programmes that were bespoke and which could be devised and implemented at a local level.

This revised approach to the qualification and the fact that, during the project cycle The United Nations' Sustainable Development Goals (SDGs) (2015) were launched, led to a further 3 year Erasmus plus project that aims to integrate the RSP framework with the SDGs and to provide example qualifications in each context.

The addition of new partners from Universitaet Vechta, Germany; Universitat Oberta de Catalunya, Spain and HEP Vaud, Switzerland have provided additional opportunities for testing the framework which is now presented in table form below (Table 13.1).

Or, as a palette as in Fig. 13.1.

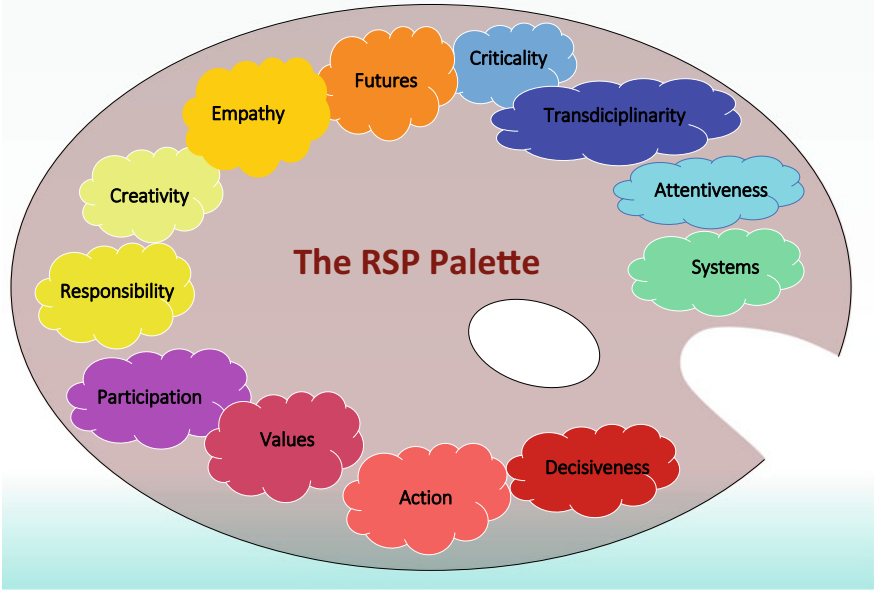

Fig. 13.1 A Palette illustrating the framework

Table 13.1 The RSP framework in table form

Thinking holistically	*Envisioning change*	*Achieving transformation*
Integration		
Systems The educator helps learners to develop an understanding of the world as an interconnected whole and to look for connections across our social and natural environment and consider the consequences of actions	**Futures** The educator helps learners to explore alternative possibilities for the future and to use these to consider how behaviours might need to change	**Participation** The educator helps learners to contribute to changes that will support sustainable development
Involvement		
Attentiveness The educator helps learners to understand fundamentally unsustainable aspects of our society and the way it is developing and increases their awareness of the urgent need for change	**Empathy** The educator helps learners to respond to their feelings and emotions and those of others as well as developing an emotional connection to the natural world	**Values** The educator develops an awareness among learners of how beliefs and values underpin actions and how values need to be negotiated and reconciled
Practice		
Transdisciplinarity The educator helps learners to act collaboratively both within and outside of their own discipline, role, perspectives and values	**Creativity** The educator encourages creative thinking and flexibility within their learners	**Action** The educator helps the learners to take action in a proactive and considered manner
Reflection		
Criticality The educator helps learners to evaluate critically the relevance and reliability of assertions, sources, models and theories	**Responsibility** The educator helps learners to reflect on their own actions, act transparently and to accept personal responsibility for their work	**Decisiveness** The educator helps the learners to act in a cautious and timely manner even in situations of uncertainty

Each competence has been listed with a set of Learning Outcomes that the educator should help the learner to achieve and a set of underpinning components that the educator should be able to do. For example:

Systems

The educator helps learners to develop an understanding of the world as an interconnected whole and to look for connections across our social and natural environment and consider the consequences of actions.

Table 13.2 Learning Outcomes: The educator helps learners to…

Learning Outcomes: The educator helps learners to…
1.1 Understand the root causes of unsustainable development and that sustainable development is an evolving concept
1.2 Understand key characteristics of complex systems such as living environments, human communities and economic systems, including concepts such as interdependencies, non-linearity, self-organisation and emergence
1.3 Apply different viewpoints and frames when looking at systems, e.g. different scales, boundaries perspectives and connections
Underpinning Components for the educator In order to achieve the above Learning Outcomes the educator should be able to:
UC1 Identify the level of complexity and abstraction to be tackled with students and use techniques such as concept mapping, systems analysis, games, or structured research-based activities to make complexity accessible to them
UC1.1a Identify and discuss causes of unsustainability, be they environmental, social, cultural, political or economic
UC1.1b Understand and critique different models of sustainability
UC1.2a Explain the difference between systematic and systemic thinking
UC1.2b Understand and apply boundaries and frames to systems, look for interconnections and emergence and recognise feedback and unpredictability
UC1.2c Understand the difference between linear and circular economies
UC1.3a Analyse issues and contexts from different perspectives and from different levels of detail
UC1.3b Use different forms of thinking and logic to aid analysis, e.g. linear vs systemic approaches, scientific method and artistic interpretation

The project has produced a series of activities, materials and theoretical papers to support delivery of the framework which can be found at www.aroundersenseofpurpose.eu/, including materials to show how it could also help the educator to address the SDGs simultaneously. For a more detailed overview of the project process and outcomes, please visit the website, or see Vare et al. (2019).

A Rounder Sense of Purpose and Sustainability

The title of the project 'A Rounder Sense of Purpose' (RSP) hopefully encapsulates the essence of the framework. As mentioned earlier, arguably the existing focus of much of our education is on preparing learners to fit into society and to be ready to serve the needs of business. Indeed, on occasions we hear business leaders remark that young people are not equipped with the skills they need for work and politicians argue that education needs to be tweaked to better serve the economy. However, if we are to address climate and environmental concerns then it is not just more education we need but, as Schumacher states, 'education of a different kind' (in

Sterling, 2001). A Rounder Sense of Purpose aims to equip educators to provide education of 'a different kind'.

Rather than train educators to be technicians who are carrying out the wishes of others by delivery of prescribed syllabi, the framework encourages educator, and learner, agency and criticality.

Competences in the first column are about the need to think holistically—to recognise that we are all interconnected and that things that are happening in one context, ie to and within one system, have implications and impact on others. This is a fundamental need in order to achieve a sustainable world. There has to be widespread realisation that actions elsewhere eg forest clearance, dumping of waste, polluting of air cannot be ignored as the planet is a closed system and such events will not remain within the boundary of the place it is happening, but will have knock on effects that will continue to spread across boundaries with long lasting impact.

This column encourages individuals to be attentive and aware of what is happening in the world and to not just accept actions and behaviours, but to evaluate them and critique them and to judge whether they are damaging to planetary systems, or are supportive. It recognises that there are different sources of knowledge and that there is a need to draw on these and operate in transdisciplinary ways in order to make judgements about actions and to consider alternatives.

Given that we are currently experiencing a climate emergency, there clearly is a need to change the way we behave individually and collectively. The first column is about identifying where those changes might need to take place and so the second column refers to competences needed to envision a different way of acting and being, in other words to envision the changes we need to make to ensure that we are living in a sustainable way.

Futures thinking is part of that, alongside the ability to be creative and innovative and to be able to imagine other ways of doing things. It is also about accepting the need to be responsible for one's actions and to be willing to be held to account for what we do. There are times when, particularly with hindsight, it becomes clear that actions taken were not the most appropriate and may have had a negative impact on the environment and we need to be willing to acknowledge and accept when this happens and learn from such occasions.

This middle column also contains the important competence of empathy as it recognises that change is difficult and that identifying evidence of, and causes of, climate and environmental disaster and consequent changes of behaviours needed can cause distress and upset. As a result, change needs to be managed carefully and sensitively with awareness of the needs and feelings of others. It is important to maintain hope for the future, but this needs to be realistic and based on what is achievable and therefore should not deceive or misrepresent reality.

Having acknowledged that changes are needed and alternatives identified, the final column is about developing the ability to achieve transformation, to make a difference. It encourages learners to appreciate that there are different ways to participate in change and to be aware of values that underpin beliefs and actions. It draws attention to the fact that sometimes it is difficult to make decisions as necessary information is not always available, but it helps learners to develop the confidence and ability

to weigh up information available and to make decisions and take action where and when necessary.

The framework is intended to be used flexibly and could be used to inform a dedicated training course for educators and/or a dedicated education for sustainability course for learners. However, perhaps more importantly, it is intended to equip educators in general with the skills and attitude to approach any educating they do with an ESD mindset so that whatever the focus of the lesson or course they are encouraging learners to think holistically, to envision change and to act to help achieve transformation towards a sustainable world.

Sustainability and Resilience

Analysing the RSP framework and sustainability using the DIMoR (ahmed Shafi et al., 2020), links between sustainability and resilience soon become apparent. Using Bronfenbrenner's (2007) notion of surrounding systems of Micro to Macro, it can be seen that these are housed within the local Ecosytem which is itself within the global planetary support system. In terms of the Chronosystem, the current time is the Anthropocene and of climate crisis. These in turn influence the development of systems within, which will then reciprocally influence the development or sustainability of the Ecosystems and Planetary support systems.

Taking a systems perspective, individual and societal trajectories will mean encounters with and within other systems. Individuals and societies can be considered vulnerable because of their circumstances e.g. the surrounding planetary support systems (environment, ecosystem, water, air) are threatened or damaged, or invulnerable because the environment and ecosystems are healthy, diverse and strong. They can also be deemed to be protected because people are aware and have a positive mindset towards sustainable development (in other words have developed RSP competences), or at risk because of climate change denial, short termism, ignorance and a focus on continued growth.

Individuals and societies then, continue to change and develop throughout their life course. As they do so they will encounter and react to other systems, which will in turn react to them. Resilience emerges when there is a healthy balance between risk & protection and vulnerability & invulnerability and when individuals and societies recognise and accept that they are not just responding to climate crises, but also causing them and that there is a symbiotic relationship between us, individually and collectively, with the ecological systems surrounding us.

So, individuals and societies have agency and consequently have a responsibility to acknowledge and accept responsibility for their actions and decisions and to consider their impact on the systems around them. RSP competences help protect individuals and societies and thus can play a role in developing resilience and creating a sustainable world. By helping individuals to develop the confidence to critique, envision difference and participate in creating change, it empowers and gives a sense of individual agency and thus resilience. In so doing it creates societies of individuals who

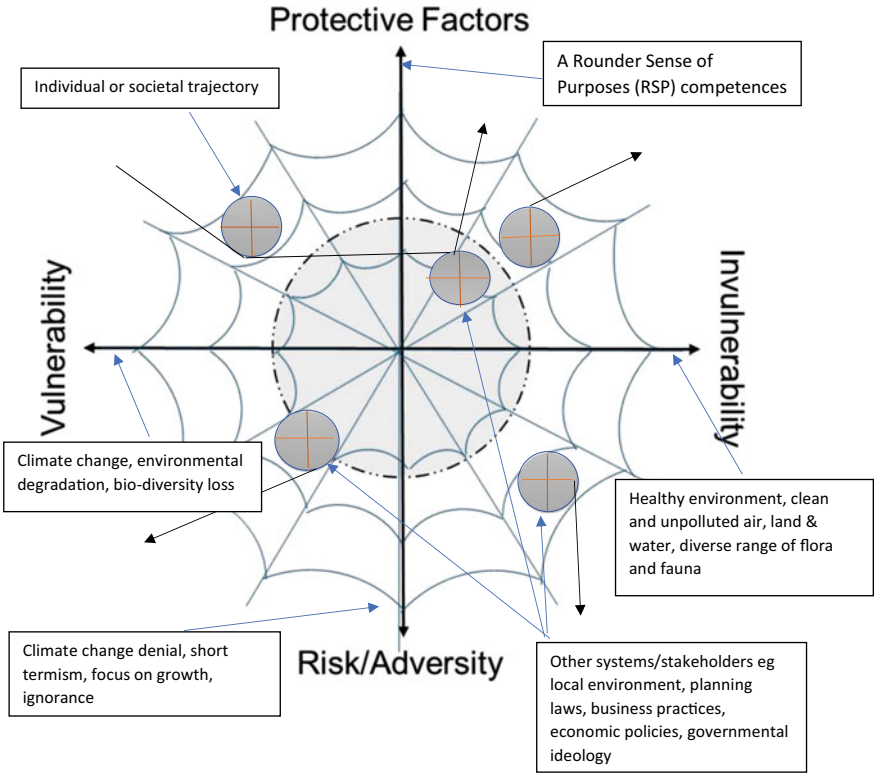

Fig. 13.2 The DIMoR (ahmed Shafi et al., 2020) and RSP competences as protective factors

have a sense of whole, of interdependence, who have awareness of, and empathy for, humans and other life forms. This 'ubuntu' further empowers by giving a sense of shared agency and the belief that together it is possible to make a difference and to create a fairer, sustainable world. A virtuous circle of individuals working together for sustainability, and the societies developed offering more safety and protection for its individuals can then be imagined, whereby sustainability and the resilience of societies, the individuals within and the surrounding ecosystems go hand in hand.

Figure 13.2 uses the DIMoR (ahmed Shafi et al., 2020) to show how the RSP competences can be perceived as protective factors and can help to develop a sustainable world in which, in turn, resilient individuals and societies emerge.

Conclusion

This chapter has argued that the planet is in an environmental and climate crisis and that this will enforce change upon the human race unless there is the collective will to

tackle the root causes in order to avoid, or at least mitigate against, damaging possible outcomes. This would involve adopting a different mindset—one that views actions and behaviours with a critical lens, that recognises and acknowledges connections between and within systems and that has a sense of responsibility and agency.

It suggested that education has a role to play in developing this mindset, but that it needs to be refocused and repurposed if it is to do so. It thus makes the case for Education for Sustainable Development (ESD). It reported on a European Erasmus Plus project 'A Rounder Sense of Purpose' (RSP) that was established with various partner countries, to consider the competences an educator would need in order to approach education with a sustainability perspective.

The chapter then provided an overview of the twelve educator competences produced in the RSP framework and explained how they were developed providing a rationale for its design. Although the framework is a convenient way to present the competences, the chapter stressed that they are better viewed as on an 'artist's palette' to be utilised and mixed together as and when appropriate rather than as separate and individual.

It showed how these competences are important in moving towards a sustainable world by collectively helping people to take a holistic, systemic view, to be able to envision alternative futures, and to have the confidence and ability to be able to participate in working towards change towards a fair and sustainable world.

The chapter then made a link between sustainability and resilience, arguing that working towards sustainability in fact increases resilience in both individuals, societies and more broadly in planetary support systems.

The Dynamic, Interactive Model of Resilience (DIMoR) (ahmed Shafi et al., 2020) was used as a framework for analysis to help illustrate these links. By representing individuals and societies within webs of support structures and interacting with and within other systems, it showed how, for example, the health of the planet can cause vulnerability or invulnerability. It then showed how RSP competences can act as protective factors as they develop individual and collective awareness, empathy and agency.

The chapter then posited that in such a way a virtuous circle could be created whereby individual and collective systems are seeking to create the conditions for sustainability in which resilient individuals, societies and ecosystems can emerge.

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Chapter 14
Conclusion

Richard Millican

Abstract This chapter summarises issues raised in Chap. 1 surrounding the need for resilience and discusses how the Dynamic Interactive Model of Resilience (DIMoR) (ahmed Shafi, Middleton,Millican, Templeton, Vare, Pritchard, & Hatley, 2020) helps consider ways of developing resilience by positioning it as something that is dynamic and interactive and operating at and across different levels. It reflects on key themes that have emerged in each chapter and shows how the DIMoR (ibid.) provides a lens through which to look at educational systems and illustrates how they can contribute to helping resilience emerge in individuals, structures and societies.

The opening premise of the book was that there is a growing need for resilience. Chapter 1 argued that, although change is a given, if the pace of change is too quick it can cause stress to individuals, societies and, arguably, the very structures that support and nurture them. These structures, or systems, might be, for example, societal ones of family, neighbourhood and community networks, governmental ones such as health, care and youth services, or environmental ones like biosphere, climate and food supply. History and science have shown that where systems are robust they will evolve, adapt and survive change and possibly thrive within new contexts. However, they also show that change can be too extreme and too fast and cause too much of a shock in which case it can threaten the very well-being of, and ultimate survival of, the system.

By looking at various metrics, the first chapter made the case that the increasing pace of change experienced since the industrial revolution has brought immense benefits to the health and well-being of humans and increased opportunities for travel, leisure and work, but that alongside the benefits are rising indicators of stress to individuals and society as illustrated by the numbers suffering from poor mental health and other social ills such as suicide, murder, poverty and abuse. It also suggested that this pace of change has wider implications by placing increasing demands on

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our planetary support mechanisms through consumption rates of both finite global supplies of natural products like coal, oil and precious metals and renewables like wood, fish and fresh water. It posited that there are indicators of stress that this demand is causing to the planet manifested through, for example, climate change, rising sea levels and species extinction rates.

The argument presented was that to adapt and survive will take resilience, the resilience of individuals, societies, structures and planetary systems. However, it also suggested that systems are not only passive and responsive, but have agency and can push back and resist and can be proactive in trying to shape the direction of travel of their own system, or others, and purposefully redirect trajectories and cause change. This too takes resilience: the resilience to withstand stress and risks caused by change and shocks to the system, to deal with tensions caused by conflicts of values, beliefs, ideology and the resilience to, where desired, resist and fight back to create new behaviours, new ways of thinking and new ways of being.

Viewing resilience in this way leads to a new way of conceptualising it. Earlier models portrayed it as something within the individual, or within the structure or system. There was consideration of whether the individual/system were vulnerable or not and acknowledgement that there were ways of providing protection against risks that could occur to build resilience. There was a sense that to be resilient was to be able to withstand shocks and change and to be able to revert back to original state afterwards.

However, Chap. 2 argued for a more systemic approach that recognised that systems were interconnected and affected by other systems, but in turn affected other systems. In other words were interactive and had reciprocal relations with other systems. It also recognised that nothing ever stayed the same and that systems are in a constant state of flux and change as they interact with other systems and move through time and space and are thus dynamic. Considering resilience in this way led to the Dynamic Interactive Model of Resilience (DIMoR) (ahmed Shafi et al., 2020). The chapter suggested that resilience emerges through the intersection of vulnerabilities-invulnerabilities/risks-protection, surrounding structures and interactions with other systems.

This approach moves away from reductionist approaches that might atomise individuals (systems) and look at them in isolation and suggests that any analysis must look more holistically and take account of wider context and other interacting systems. The model thereby serves as a lens, or a tool that helps with considerations of, and with the development of, resilience.

As a further illustration of this interactive and multi-layered nature of resilience, Chap. 3 considers resilient societies and shows how they can only become so if they recognise and seek to build resilient individuals, structures and networks and also acknowledge and protect the systems within and around them. It discusses the diverse nature of systems and the complexity of resilience and the challenge of achieving it. It highlights the role of education and learning and the need for transparency, openness and the proactive sharing of ideas and power alongside cross-disciplinary connections.

The rest of the book then focuses on education, itself a system, and explores various ways it can contribute towards the development of resilience in learners and also in other stakeholders and educational structures and, thereon, how it might help build resilient societies and, perhaps, a more resilient world.

Chapter 4 picks this up by questioning the very purpose of education. It suggests that the recent pace of change of education policy and moves towards more target and data driven agendas are in danger of placing increasing stress on learners, educators and institutions as public facing measures of performance are used to compare and contrast performance in a competitive way. It also suggests that this process, arguably implemented in a quest for equality of opportunity, has tended to move towards a more standardised and uniform approach to education with the instrumentalist agenda of preparation for work. The chapter suggests that the DIMoR (ahmed Shafi et al., 2020) helps analyse such an approach and show how it is not conducive for resilience and that, rather, more freedoms and autonomy should be available for the actors within to respond to individual need and to develop their own and each other's autonomy and agency. This would better prepare them for uncertain futures and help equip them with the confidence, ability and skills necessary to navigate their own future in which they might feel fulfilled and at ease. In so doing this would develop their own resilience, those of others and in turn help contribute to resilient societies.

Probing further into the role of education, Chap. 5 uses the systems approach of the DIMoR (ahmed Shafi et al., 2020) to consider the development of resilience through education from different perspectives: (1) from a systems perspective, (2) from a pedagogical point of view and (3) from a programme-based approach. It argues that the latter has the potential to become a checklist of strategies and implies that there are easy 'solutions' and ways of becoming resilient. It also suggests that a programme-based approach does not take sufficient account of individual context and agency. Instead, the chapter advocates that educational institutions should be organised in such a way that encourages agency and does not over-protect from risk, but instead provides a safe, nurturing environment in which individuals can explore, experiment and take risks at their own pace. This has implications not only for institutional ethos and underpinning values, but also for pedagogy which, the chapter contends, needs to put the individual at the centre of learning and encourage them to take responsibility for their actions and behaviours and, as also suggested in Chap. 4, develop autonomy and agency and thereby resilience.

The theme of a learner centred pedagogy is picked up in Chap. 6 which focuses on the early years' foundation stage. It applauds the key person approach advocated in this phase to nurture and support children and the role of challenge and risk to aid development. The DIMoR (ahmed Shafi et al., 2020) is used to illustrate how this can help create a positive early trajectory towards the development of resilient individuals. It emphasises the importance of this period in laying resilient foundations in children, whilst acknowledging that resilience is contextual, contingent and time bound.

Chapter 7 draws attention to rising incidences of, and concerns about, poor mental health in education. It explores links between mental health, well-being and resilience

and the challenge of responding to and meeting needs. The DIMoR (ahmed Shafi et al., 2020) is used to help analyse and search for causes of poor mental health and to look for interventions that might help improve it and develop well-being and resilience. It argues that a more systemic, holistic approach is needed in order to address these issues and that the DIMoR (ahmed Shafi et al., 2020) can assist with this. It also illustrates that, due to the interconnections between systems and the dynamic and interactive nature of resilience, making positive developments to try to improve well-being for learners is likely to have a reciprocal positive effect on the educators too.

An action research project into feedback practices is summarised in Chap. 8 and relays how the research revealed that many students had an emotional response to disappointing grades and feedback which could be uncomfortable and challenging. Students responded in various ways to this: in some cases they seemed to get stuck in this space which could be detrimental to motivation and wellbeing, while in others they took actions to move on in a developmental way. This led to links with resilience and, specifically, academic buoyancy and highlighted again the need to consider things holistically and not to view events, in this case feedback, in an isolated and unconnected way. Having identified indicators of academic buoyancy (the Key 5), the research proceeded to highlight the importance of relationships and dialogue and the impact of learner attributes. In so doing, the chapter showed how the resilience of learners could be supported and developed by creating a supportive, nurturing environment built on relationships and dialogue and by encouraging the adoption of certain behaviours i.e. internal locus of control, assessment literacy, forward thinking, improvement focus and action orientation. However, alongside this it illustrated how the DIMoR (ahmed Shafi et al., 2020) approach helps reflect on the feedback process and notice how systems are interacting and having an effect on each other. This drew attention to the symbiotic relationship between student, tutor/marker, feedback systems, student motivation, workload allocation models, league tables and, ultimately, student and institution wellbeing.

Chapter 9 builds on themes raised in earlier chapters. It centres on research conducted with practitioners working on a nurture group for young children with Special Educational Needs and Disabilities (SEND). Findings revealed that the stresses and emotional demands of running such a group had impact on the mental health and well-being of the practitioners. This highlighted again the interconnected nature of systems and how changes to one can affect others. It showed the importance of taking a systems approach and looking holistically at contexts, recognising the role of relationships and individual attributes in helping to provide protection alongside factors such as leadership, institutional ethos and policy context.

The influence and dynamic interconnection and interaction of context, culture and actors was further explored in Chap. 10 which reported on an Erasmus plus research project that investigated the impact of an intervention programme designed to develop emotional intelligence in learners in the hope of reducing the number who left school early. This focus on emotional intelligence and the notion of self-awareness and self-regulation is relevant as they are recognised as protective factors and can thus potentially help build resilience in individuals with the belief that this would make

them more likely to remain in education. The project adopted a highly structured scheme called the Didactics of Emotion and, as such, used the programme-based approach as discussed in Chap. 5. The programme was implemented in the six partner countries with varying degrees of success and indicated that the attitudes, values and beliefs of the people implementing the programme impacted on the effectiveness of the programme as did cultural context. The use of the DIMoR (ahmed Shafi et al., 2020) as a lens through which to analyse the project threw light on the importance of giving due consideration to these other human and systemic factors that are involved in the implementation of, and provide a context for, the intervention and thus affect the trajectory of the individuals involved and their developing resilience.

Chapter 11 develops this theme further. It discusses how education may be viewed by many as a protective factor and indeed for some as something that might compensate for the protective factors that might be perhaps lacking within the family. However, using research with young offenders, it illustrates that, again, this cannot be assumed due to myriad influences on systems and individuals within them. It reveals that, indeed, education in custody may even be detrimental to the development, resilience and well-being of the individual and add to risk factors due to the poor training of educators, the fragmentation of provision, high turnover of staff and the transient nature of individuals concerned. The author suggests that the DIMoR (ahmed Shafi et al., 2020) helps the custodial setting take a holistic, systems view and map risk-protective and vulnerability-invulnerability factors within a context and consider the complexities of the organisation, the organisational structures and the interactions with internal and external systems and individuals together. The chapter argues that this would enable a more complete picture to be developed that would help with the targeting of interventions which would then be better positioned to help the individuals involved develop a resilient approach to life's challenges.

In Chap. 12, the author makes reference to research conducted with 2nd year (level 5) BA Education Studies undergraduates and draws a number of themes together. The chapter contends that the internet, itself a system, plays a pivotal role in the education of young people and permeates the systems that surround us, as suggested by Bronfenbrenner. As a consequence, it can act as both a risk and a protective factor depending on use. Drawing on ideas discussed in Chap. 5, it proposes use of Self Organising Learning Environments (SOLE) as a pedagogical approach. This approach has its foundations in complexity theory and the idea that, from complexity, things emerge. The notion discussed is that, presented with a 'Big Question' by the educator acting as a facilitator, the learners self-organise into groups as they use the internet to explore the question posed. From the activity a fluid and organic situation is created in which learners can change groups and direction during exploration. This, coupled with both the interplay between the learners as they move around and interact and the interplay with the internet and the facilitator creates a sense of chaos from which learning occurs. The author proposes that from such an approach not only learning, but resilience can emerge. Using the DIMoR (ahmed Shafi et al., 2020) approach the chapter shows that such a pedagogical approach as espoused by SOLE can present learners with risk from both the fluidity of the activity itself and also from the use of and exposure to the internet, but in a supportive environment that

encourages the development of social capital, agency and autonomy—all components and essential aspects of resilience.

The final chapter, Chap. 13, revisits the central theme of Chap. 4 and, reporting on an Erasmus plus project involved in developing competencies for Educators of Sustainable Development, questions the purpose of education. The chapter makes reference to environmental, ecological and climate change and shows how actions and behaviours of humans threaten the very structures and systems that sustain us. It argues that education has been based on economic models that assume constant growth that is predicated on unlimited supplies of food sources, water and the materials used in production of consumables and on the notion that the Earth can continue to absorb the waste that we produce without damage or long-term effect. In so doing, it shows how the DIMoR (ahmed Shafi et al., 2020) helps us to view sustainability from a systems perspective and recognise how all systems are interconnected. It can thus be seen that our individual and collective actions are damaging other systems e.g. water, climate, ecological and the consequences are that the climate is showing signs of becoming more unpredictable, species are becoming endangered or even extinct and supplies of items that we rely on to produce 'necessities' for our lives in the twenty-first century are rapidly diminishing. This illustrates again the reciprocal relationship of systems within our planetary system and how individual and collective behaviours are affecting the resilience of other systems, which in turn will affect our own resilience, and how it is thus vital to view the interactions and effects holistically. The chapter posits that education is not fit for purpose as existing education systems have created this situation. The project was entitled 'A Rounder Sense of Purpose' as it started from the premise that education should be about more than preparation for employment and economic growth and that it should equip learners with the critical thinking skills, awareness and ability to effect change i.e. the resilience to deal with the changes taking place, to cope with tensions that might be felt between what is happening and with what they feel should be happening and with the resilience to resist and to redirect the current direction of travel, as discussed in Chap. 1.

The premise of the book has been that a reconceptualization of resilience is needed. Whilst examples drawn upon have been European and largely UK based, the ideas presented are applicable more widely to other contexts. The book suggests that there has been a tendency to view resilience as something that is within—whether that be within an individual, an institution, a society or an organisation—and something that needs to be developed. It argues that this can lead to risk aversion and over-protection as stakeholders look to develop that resilience within the given system. Building on models and ideas from Bronfenbrenner; Daniel, Wassell & Gilligan; Ungar; Masten; Rutter; and Downes, introduced in Chap. 2, the book argues that whilst it is useful to consider the risks that the system is exposed to against protective factors; its vulnerability against its invulnerability; and that it is also useful to consider the layers or webs of support surrounding the system and the agency and trajectory of the system itself; it is also important to recognise that the system is not static. It contends that all systems move in time and space and interact with other systems and are in a constant state of flux. From these interactions and this state of change,

or chaos, as long as the shocks caused by the interactions are not too great, resilience emerges and the systems continue to adapt and develop.

The book therefore suggests that a systems approach to resilience needs to be taken whereby it is acknowledged that it is not something that is a fixed state, but something that is dynamic and constantly changing in response to interactions with other systems. It thus argues that resilience is not something that is simply within, but that emerges temporally as a result of past and current interactions between and within other systems. The Dynamic Interactive Model of Resilience attempts to capture this by representing systems within systems, each with their own trajectory, each with a mix of protective and risk factors and vulnerabilities and invulnerabilities, interacting with each other. As they do, new trajectories emerge.

The book also highlights agency as a key feature of resilience and notes how this can enable systems to accept change and adapt to it, but also at times to resist change and even to predict it and to influence the direction of travel so to avoid a particular interaction or disruption. The implications of this approach are that, as argued, individuals and systems in general need resilience—the resilience to cope with change, the resilience to deal with tensions and inconsistencies within and across systems and the resilience to be able to deal with the pressure and stress of resisting and redirecting pathways when desired.

The DIMoR (ahmed Shafi et al., 2020) helps with an analysis of the resilience of systems and with the realisation that it is not possible to view any system in isolation, but as part of a bigger system. To accept that we are all interconnected suggests the need to nurture and care for others/other systems given that the wellbeing and trajectory of others will ultimately impact on that of our own, symbiotically. This is as apposite within an educational institution when considering the learners within, as within society when we are thinking about the members within, as within the planet when considering our place as humans living within and alongside life planetary support systems.

The authors present the DIMoR (ahmed Shafi et al., 2020) as a model to encourage a shift in the way that resilience is conceptualised and approached. It will enable practitioners to analyse systems more broadly and think more holistically and contextually as to how to create the conditions for resilience to emerge and be nurtured. To facilitate this process, research plans are in place to develop a practical guide in the form of a framework which can be used by practitioners to help understand the emerging resilience of systems, including the individual as a system in their own right. This framework will provide a strong perspective from which to try to create conditions that would further help emergence of resilience within the system/s under consideration.

The DIMoR (ahmed Shafi et al., 2020), therefore, contains broad messages. Messages about how, as educationists, we might consider and support the emergence of resilience in our learners, but also how, collectively, we might need to consider how we live and work together and how our actions might affect the resilience of other systems around us, including those that we need for our very survival. We are, after all, all interconnected.

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