Chapter 1
Understanding Motivation in Education: Theoretical and Practical Considerations

Woon Chia Liu, John Chee Keng Wang, and Richard M. Ryan

> *"The direction in which education starts a man will determine his future in life."*
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> – Plato

In this era of relentless change, explosion of information, and proliferation of technological innovations, it is too simplistic to think that teachers can teach their students everything they need to know in their lifetime. In a world filled with problems that require complex solutions, and issues that are not documented in books and manuals, it is naive to attempt to "drill" and "discipline" students so that they know the "correct" answers. With this reality check, we need to take a cold hard look at what we do in classrooms and schools when we educate our students. We are doing a disservice to our students if we teach content and routines that become obsolete or impart skills that are not transferable. But more importantly, we are shortchanging our students if we champion learning processes that do not impact on life-wide learning, create learning environments that do not encourage self-determination, and develop students who do not have the drive to learn independently.

Education in the twenty-first century must strive to develop learners so that they are willing to question and find connections, create and push the boundaries, and innovate and seek out solutions. It must engage learners and empower them so that they take responsibility for their own learning and have the drive to create their own future. Inasmuch as "education is the lighting of a fire," motivation is the torch that lights and sustains the fire.

There are many definitions of motivation. Put simply, it can be defined as a force that activates, directs, and sustains goal-directed behavior. Accordingly, motivational studies attempt to examine the factors that drive and energize behavior. Across

W.C. Liu • J.C.K. Wang (✉)
National Institute of Education, Nanyang Technological University, Singapore, Singapore
e-mail: woonchia.liu@nie.edu.sg; john.wang@nie.edu.sg

R.M. Ryan
Institute for Positive Psychology and Education, Faculty of Health Sciences,
Australian Catholic University, Strathfield, NSW, Australia
e-mail: richard.ryan@acu.edu.au

the globe, teachers are in a daily struggle to energize and direct students to engage in learning, using techniques and strategies that clearly vary in their effectiveness. Yet compared to the efforts focused on developing curricula and developing tests to assess student competencies, much less emphasis has been given to research in motivation. The title of this book, *Building Autonomous Learners*: *Perspectives from Research and Practice Using Self-Determination Theory*, reflects our intent to bring to the fore this critical issue.

Understanding the role of motivation in human behavior is especially important as we educate our children and prepare them to be the self-directed and lifelong learners of the twenty-first century. However, there are still gaps in our understanding of how to catalyze motivation in our schools, classrooms, and sport arenas. In particular, a lot more can be done to translate research findings into real-life applications. It is in this light that the Motivation in Educational Research Lab (MERL) was set up at the National Institute of Education (NIE), Nanyang Technological University, Singapore (http://merl.nie.edu.sg/). MERL is led by Professor John Wang and Associate Professor Woon Chia Liu and is advised by Professor Tan Oon Seng. Professors Edward Deci and Richard Ryan, the developers of the self-determination theory (SDT), are both consultants of MERL. Apart from Professors Deci and Ryan, there are 13 leading researchers in the field of motivation who are members of the international advisory panel. In addition, there are currently 14 NIE faculty members in MERL. This edited book represents the work of MERL and her associated international scholars. It consists of their work on motivation and views on issues in education, covering both the Singapore context and global perspective.

In recent years, there has been a heightened focus on international benchmarking tests such as the Trends in International Mathematics and Science Study (TIMSS), Progress in International Reading Literacy Study (PIRLS), and Program for International Student Assessment (PISA) among policy makers. Much has been made of Singapore's education system due to her students' continued and sustained high performance in international benchmarking tests. Arguably, Singapore has a sound education system, with good schools, capable school leaders and teachers, and facilities that are among the best in the world. Nonetheless, much more can and must be done in Singapore and in other education systems worldwide, if we want to prepare learners who are able to make the best of their talents and to develop a passion for learning that lasts through life.

One of the main aims of MERL is to translate theories into classroom strategies to enhance student learning. This book was conceptualized as an effort toward that end. The authors of these chapters provide unique insights into motivation from varied theoretical perspectives such as self-determination theory and achievement goal theory and others. A main feature of the book is its focus not only on theory but more importantly on practical suggestions and teaching strategies for the classroom.

This collection consists of 15 chapters presenting some of the latest theories, findings, and applications in education from renowned researchers in the field of motivation. Each chapter provides a perspective on maximizing motivation in the classroom

as well as strategies for practice. It is thus more than a collection of motivation research in education. It provides teachers and parents with strategies that could enhance the development of autonomous learners and policy makers with research evidence that could impact policies. Some chapters focus on creating a self-motivating classroom climate, others on related topics such as personality traits and use of ICT in education, and still others on teachers' motivation and parental involvement.

The self-determination theory (SDT), a broad framework for the study of human motivation and personality, is the central perspective used in organizing the chapters in the book. SDT articulates a metatheory for framing motivational studies. It is a formal theory that defines intrinsic and varied extrinsic sources of motivation and gives a description of the respective roles of intrinsic and types of extrinsic motivation in cognitive and social development and in individual differences. There are six mini-theories within SDT. First, the cognitive evaluation theory (CET) looks at intrinsic motivation and factors in the classroom that can facilitate or undermine it. CET addresses the effects of extrinsic rewards, evaluations, and feedback on intrinsic motivation. The second mini-theory, organismic integration theory (OIT), focuses on the processes through which motivation for non-intrinsically motivated activities can be internalized. It thus concerns how activities that may not be "fun" can nonetheless come to be valued and embraced by students. Causality orientation theory (COT) is the third mini-theory. It focuses on individual differences in people's tendencies to orient toward environment and regulate behaviors. Fourth, the basic psychological need theory (BPNT) explains in detail the concept of the basic psychological needs and their relations to psychological health and well-being. In brief, it describes the nutriments needed by every learner to be actively and positively engaged in the school setting. A fifth framework within SDT is called the goal content theory (GCT). It distinguishes between intrinsic and extrinsic goals and their impact on motivation and well-being. GCT suggests that how students understand their overarching life goals influences their attitudes, well-being, and motivational orientations in the classroom. Finally, the relationship motivation theory (RMT) addresses the factors that lead people to maintain close relationships with others. It applies readily to the student-teacher relationship and the ways in which it can be productively enhanced. One can see from the collective breadth of these six mini-theories that SDT covers many nuances in the area of motivation, many of which are explored within the various chapters in this book.

In the context of SDT, Deci and Ryan have long argued that supporting both student and teacher autonomies has substantial advantages in terms of educational outcomes, relative to controlling strategies. In their contribution to this book, these two developers of SDT review research supporting the position. They highlight that autonomous motivation tends to flourish in situations where people experience satisfaction of their three basic psychological needs—the needs for competence, relatedness, and autonomy. In addition, they review research on goals—both mastery and performance goals and intrinsic and extrinsic goals—examining them in relation to autonomous and controlled motives. Finally, they discuss ways in which teachers can support satisfaction of their students' basic psychological needs, especially when teachers themselves are similarly supported. In conclusion,

they suggest that educational policies and practices are often too narrowly focused on test outcomes and on performance in specific content areas, whereas they see higher-quality learning occurring most optimally in contexts where learners find the basic psychological need supports for active self-development.

Passion is defined as a strong inclination for a self-defining activity that we love, value, and spend a considerable amount of time on. Vallerand demonstrates that passion matters for the field of education. His chapter presents a theoretical formulation that focuses on passion with related empirical research. His dualistic model of passion posits that there are two types of passions: obsessive and harmonious. Obsessive passion represents an internally controlling pressure to engage in an activity that one loves, thereby leading to conflict with other aspects of the person's self and to maladaptive consequences. On the other hand, harmonious passion leads individuals to more autonomous engagement in an activity that they love, resulting in more adaptive outcomes. He reveals that harmonious passion for teaching is typically associated with adaptive outcomes, while obsessive passion is related to less adaptive and at times maladaptive outcomes. These findings have been obtained with respect to a number of affective, cognitive, mental, and physical health, relationship, and performance variables, across diverse populations. These findings also apply to passion for one's studies. He also addresses the role of personality and social variables in the development of passion, and he proposes directions for future research.

SDT suggests that, under the right conditions, young people are able to motivate themselves to learn. Yet, many teachers would not portray their students as naturally proactive and endowed learners, since they, more often than not, have had the experience of teaching young people who exhibit a lack of enthusiasm, are passive, refuse cooperation, and sometimes even display disruptive or aggressive behaviors. Haerens, Vansteenkiste, Aelterman, and Van den Berghe attempt to shed light on the dark side of student motivation by highlighting the antecedents and consequences of teachers' controlling behaviors in the classroom. They examine the role that experiences of need frustration play in fostering students' passivity, lack of cooperation, and/or aggressive and disruptive behaviors. They also review evidence with regard to the relationships between controlling teaching and maladaptive student outcomes. In addition, they provide insights into the wide range of antecedents that help to explain why teachers orient themselves toward a more controlling teaching style. Finally, they provide practical suggestions for teachers to avoid controlling forms of teaching.

The chapter by Guay, Lessard, and Dubois looks at the ways in which teachers can create better learning contexts for students by promoting autonomous motivation. They first describe the main instruments for measuring students' motivation according to the different motivation types proposed by SDT. Next, they discuss the potential effects of these motivation types on students' emotions, learning strategies, academic achievement, and school perseverance. Thereafter, they discuss the roles of parents, peers, and teachers in promoting certain motivation types, as well as some SDT-based school intervention programs. Finally, they derive practical implications from the reviewed studies and propose avenues for future research.

Teachers are the decisive element in the classroom. They create the learning climate and possess the power to empower or humiliate their students. As such, no book that is interested in student motivation would be complete without looking at teachers and their role in promoting a healthy learning environment. Pelletier and Rocchi review the research on teachers from the SDT perspective, while taking into consideration the role that teachers' motivation has on their behaviors with their students. More specifically, they examine how contextual factors influence teachers and how their impressions of these factors, their need satisfaction or dissatisfaction, their motivation for teaching, their general motivation, and their psychological and behavioral outcomes are related. This chapter shows that supporting teachers and providing them with a psychologically sound experience are extremely important to classroom outcomes. Since this review focuses on some of the key environmental factors that are relevant to teachers, it highlights to school administrations key areas they can work on to promote more motivated teaching and better outcomes for both the teachers and students within their own organizations.

In his chapter on autonomy-supportive teaching, Reeve notes the distinctions between autonomy-supportive teaching and controlling style of teaching. He provides evidence of the benefits students and teachers themselves gained from receiving autonomy support, and they benefit in ways that are widespread and educationally and professionally important. The goal of autonomy support is to provide students with learning activities, a classroom environment, and a student-teacher relationship that will support their daily autonomy. In addition, it allows teachers to be in sync with their students. Reeve provides multiple examples of the six acts of autonomy-supportive teaching by breaking them down to three critical moments within the instructional flow. This chapter is thus specifically targeted at teachers, focusing on how to put autonomy-supportive strategies into practice.

Assor in his chapter on instruction sequence for promoting autonomous motivation for learning especially designed for regular (often crowded) classrooms also aimed at helping teachers to provide support for student needs as part of the instruction process. There are three phases in Assor's model: (1) classroom preparation, including how classroom discussions and physical environments can create a more motivating culture and context for learning, (2) application of the sequence in individual or group work, and (3) all-classroom interim and summary discussions. The theoretical and research-based foundations for the proposed sequence are underscored as the different parts of the sequence are presented. Evidence for the effectiveness of parts of the sequence is summarized, as are the possible limitations of the sequence. Assor also points to important areas of learning and personal development in which less structured approaches might be much more beneficial.

Student learning is, of course, not only about the students and teachers. There is now ample evidence demonstrating the significant effects of parents' involvement in their children's schooling for children's school success. Yet how these effects occur and what factors facilitate parent involvement are less well understood. In her chapter on parental involvement and children's academic achievement, Grolnick focuses on how parent involvement exerts its effects. She examines multiple forms of involvement (e.g., at school, at home), parents' motivations for being involved

(whether more controlled or autonomous), and whether involvement is provided in a more controlling versus autonomy-supportive manner. In addition, the chapter provides evidence for a model in which parent involvement affects children's achievement largely by facilitating children's inner motivational resources of perceived competence, perceived control, and autonomous self-regulation. Some guidelines for autonomous parenting are presented.

In Chew's chapter on parental influences on students' outcome and well-being, he traces the development and trends in the study of parental influence, focusing on its relations to child outcomes pertaining to school-related concerns and pursuits, and indicators of well-being. The emergence of SDT as the theoretical framework for such investigations is discussed. In the process, key parenting dimensions or styles important to the development of the child are identified. In line with the emphasis on the holistic development of students, a scoping review of the current research on parental influence on adolescent outcomes in the sports domain was conducted. Results showed that the research on parental influence in the sports domain pay little attention to the identified parenting styles or dimensions. Relevant to the discussion, highlights of findings from recent studies by this author on the effects of parenting dimensions on student-athletes' motivational factors and well-being are presented.

Similar to Reeve's chapter, How and Wang focus on how to create an autonomy-supportive environment in physical education (PE). Research has found that PE teachers' motivational styles have a substantial impact on students' engagement in learning and can influence children to adopt physically active lifestyles. This chapter presents a strong case for an autonomy-supportive PE classroom through research-based evidence. Additionally, this chapter also provides practical suggestions to enable PE teachers to implement an autonomy-supportive style in their teaching of PE.

Wang, Ng, Liu, and Ryan present a research study on the effectiveness of autonomy-supportive intervention in students' perceived autonomy support, psychological needs, learning strategies, and achievement in Singapore schools. Results revealed that from pre- to post-intervention, students taught by autonomy-supportive teachers had significant positive changes in perceived autonomy support, needs, self-efficacy, self-regulated learning, and grades. Students in the autonomy-supportive condition were also more self-efficacious and autonomous in learning than those in the control condition, as shown by increased achievement. Implications and limitations are discussed.

The twenty-first century is one characterized by technological revolution, so it is important that Koh looks at student motivation and the use of information and communication technology (ICT) in the classroom. The current impetus is for the main stakeholders in education, ranging from high-ranking policy makers and school leaders to teachers and students at ground level, to get on the bandwagon of mining the so-called "golden" opportunities that ICT has to offer. However, formal research into the effectiveness of ICT-powered tools in facilitating teaching and learning has just started to emerge, and there is a pressing need to review the extent to which conventional theories are applicable to ICT-infused learning contexts.

Koh's chapter focuses particularly on three commonly used ICT tools, namely, the e-portfolio, blogs, and YouTube videos to promote learner motivation, and the extent to which conventional theories of motivation are able to explain what is currently observed. She specifically discusses the extent to which students' self-determination, self-efficacy, and self-regulation are promoted through the infusion of ICT in their learning.

Nie uses achievement goal theory to examine the relations between classroom goal structures and students' learning in Singapore's secondary schools. Data were collected from more than 8000 Secondary 3 students in 247 classes across 39 schools. The results from both English and mathematics classrooms show consistent findings. In essence, classroom mastery goal structure is found to be positively related to students' academic self-efficacy, interest and enjoyment, personal mastery goal orientation, and engagement, whereas classroom performance goal structure is found to be positively related to personal performance avoidance goal orientation and negatively related to academic achievement. Specifically, in English classrooms, classroom performance goal structure is positively related to avoidance coping and negatively related to engagement. In general, the results from this large-scale study suggest that adopting classroom mastery goals, rather than focusing on performance goals, is a more effective motivational strategy.

Liem and colleagues continue this focus on achievement goals, providing a synthesis of the empirical work on the adoption of achievement goals and its impacts on academic, social, and well-being outcomes and discussing the relevance of the TARGET framework to the *teach less*, *learn more* (TLLM) initiative. The TLLM is an educational approach initiated in 2004 by Mr. Lee Hsien Loong, Prime Minister of Singapore, in fostering students' motivation and engagement in both academic and nonacademic arenas so that they are better prepared to face future life challenges. Given the benefits and also potential detriments of emphasizing the pursuit of performance goals, Liem et al. propose that Singaporean students would benefit from educational practices focusing on the pursuit of mastery goals or task-based goals. The practical implications of achievement goal theory for the implementation of the TLLM policy are highlighted.

In summary, the chapters in this book consist of the latest findings and theory advancements and applications in education from the SDT and achievement theory framework. The ultimate goal of this collection is to convey to educators and policy makers the latest information on the importance of building autonomous learners, along with policy implications and practical strategies for practice in school, classroom, and home. We hope that you will find these chapters useful and enlightening.