

Chapter 2

Framing Theories and Implementation Research

Cheryl Vince Whitman

Definitions

The processes for transforming a concept into health promotion and prevention policies and strategies draw on many theories in social science, public health, and education. Dissemination, diffusion, implementation, technology transfer, systems change, and capacity building are all terms used to describe various aspects of translating research to practice, but each term has a slightly different meaning. The Health-Promoting School concept has also been embedded in global education reform initiatives, such as Education for All, drawing on those methods and terminology used in transforming education systems.

Table 1 offers definitions of terms that play an important role in understanding and describing the processes for implementation. There is no broad consensus on the vocabulary and terms to describe elements of the approach.

For the purpose of this book, we define implementation as Fixsen et. al have,

implementation is defined as a specified set of activities designed to put into practice an activity or program of known dimensions. According to this definition, implementation processes are purposeful and are described in sufficient detail such that independent observers can detect the presence and strength of the “specific set of activities” related to implementation. In addition, the activity or program being implemented is described in sufficient detail so that independent observers can detect its presence and strength.

(Fixsen, Naoom, Blase, & Friedman, 2005, p. 5).

Most research on such programs has focused on the effectiveness of the intervention, rather than on the effectiveness of the implementation process or the relationship between implementation and outcomes. Reviews of the research offer strong support that the “level of implementation affects the outcomes obtained in promotion and prevention programs” (Durlak & Dupre, 2008, p. 327).

C. Vince Whitman

Health and Human Development Programs, Education Development Center, Newton, MA, USA

C. Vince Whitman and C.E. Aldinger (eds.),

Case Studies in Global School Health Promotion: From Research to Practice,

DOI: 10.1007/978-0-387-92269-0_2, © Springer Science + Business Media, LLC 2009

Table 1 Definitions of terms

Dissemination is defined by the US Centers for Disease Control and Prevention as the intentional spreading of innovations from the developers or originators to the intended users (Centers for Disease Control and Prevention, n.d.-a).
Implementation is a specified set of activities designed to <i>put into practice</i> an activity or program of known dimensions. It is a means of achieving an end, an instrument, or an agent.
Diffusion of innovation is the “process by which an innovation” – defined as “an idea, practice, or object that is perceived as new” – “is communicated through certain channels over time among the members of a social system” (Rogers, 1995, pp. 10–11).
Technology transfer is the transfer of ideas, information, methods, procedures, techniques, tools, or technology from the developers to potential users. Methods of technology transfer include scientific publications in peer-reviewed journals, articles in management-oriented publications, computer programs, training sessions, tours, and workshops (US Forest Service, 2005).
Systems change is the process of improving the capacity of the public health (or other) system to work with many sectors to improve the health status of all people in a community (Colorado Department of Public Health and Environment, 2005).
Education reform is a plan or movement which attempts to bring about a systematic change in educational theory or practice across a community or society (Education Reform, n.d.).
Capacity building is much more than training and includes: (1) human resource development to equip individuals with the understanding, skills and access to information, enabling them to perform effectively; (2) organizational development, including management structures, processes, and procedures, not only within organizations but also the management of relationships between the different organizations and sectors (public, private, and community); and (3) institutional and legal framework development. (“Capacity building,” n.d.)
Sustainability is the ability to continue and keep a program going beyond initial, external funding and to have it become an ongoing part of an agency’s program and services.
Going to scale is the process of reaching larger numbers of a target audience in a broader geographic area by institutionalizing effective programs. While there is no precise definition that identifies the amount of increased programming or coverage required for scaling-up, scaled-up programs usually reach (or provide access for) much of the targeted population within a specified area (Senderowitz, 2000; Smith & Colvin, 2000).

It is beyond the scope of this book to relate the implementation practices to the outcomes achieved as Health-Promoting Schools took root around the globe. Our primary contribution, through qualitative research and a theoretical framework, is to use case studies to illustrate the methods and strategies to put the concept into practice.

Theory and Research on Implementation

Figure 1 presents one possible framework of 12 major factors that play a role in successful implementation, *The Wheel of Factors Influencing Implementation of Policy and Practice*. Created by Vince Whitman at EDC, this framework is based on review of the extensive literature on diffusion of innovation, technology transfer, implementation research, and education reform research. The framework also draws on considerable tacit knowledge from the design and operation of large-scale training and technical assistance centers that provide services to international,

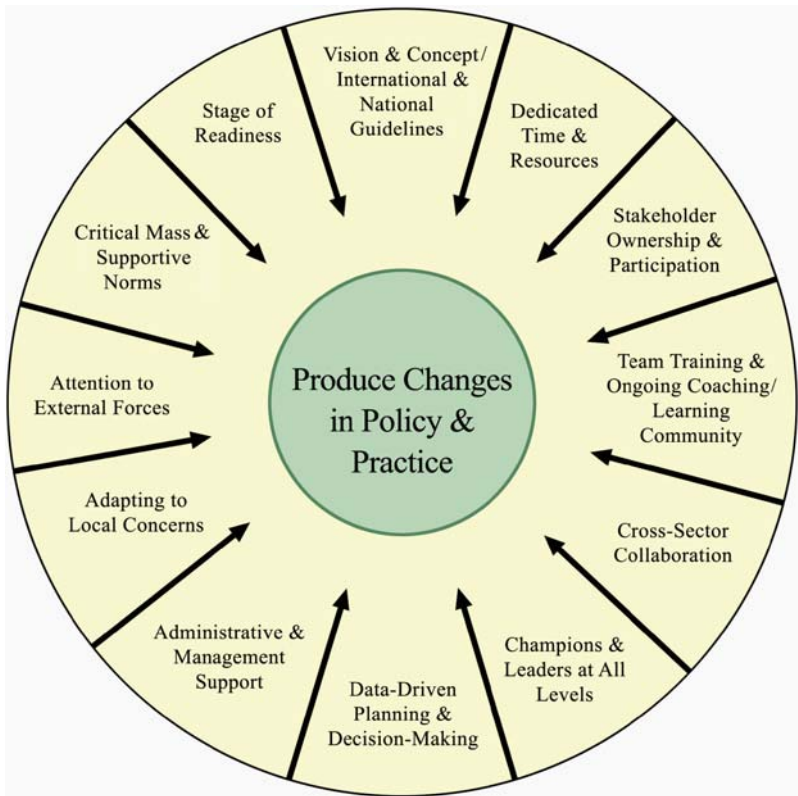


Fig. 1 The wheel of factors influencing implementation of policy and practice (adapted from Vince Whitman, 2005)

national, state, and local agencies in their implementation of innovations and evidence-based programs. Using many of these factors can also lead to sustainability and taking programs to scale.

Through meta-analyses, other researchers have identified similar factors to those depicted in the Wheel. For example, an examination of 81 implementation studies with quantitative or qualitative data on factors that affect the implementation process also pointed to a similar number of factors: “funding, a positive work climate, shared decision-making, coordination with other agencies, formulation of tasks, leadership, program champions, administrative support, providers’ skill proficiency, training, and technical assistance” (Durlak & Dupre, 2008, p. 340).

Similarly, St. Leger identified a number of successful factors for starting and sustaining a Health-Promoting School, which add to those named above the celebration of milestones and the opportunity to review and refresh progress after 34 years (St. Leger, 2005).

A review of supporting research evidence for the 12 factors in the Wheel follows.

Vision and Concept/International and National Guidelines

A key factor in the process of changing policy and practice is to have a powerful concept or vision to inspire and motivate people to take action. A powerful concept or vision can be instrumental in leading educators to think differently and to adopt new and more effective practices (World Health Organization, 1997). In the case of the Health-Promoting School, evidence about the link between health and learning has also proven to be important in marketing the concept (Viljoen, Kirsten, Haglund, & Tillgren, 2005).

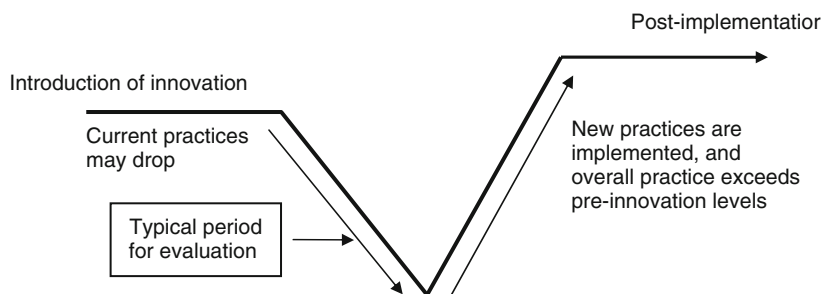
More often than not, change occurs as a result of outside influences, discussed in more detail under “Attention to External Forces.” Examples include pressures on schools to raise academic performance, sadly the result of a violent incident, or to respond to a health threat, such as SARS. WHO and other United Nations agencies have often been powerful external factors catalyzing change.

New ideas requiring *large* changes are more likely to be embraced than ideas involving small, incremental ones (Berman & McLaughlin, 1975). Compared with the more narrow and traditional view of school health as classroom instruction, the broader vision of the Health-Promoting School or FRESH (UNESCO, UNICEF, WHO, & World Bank, 2000) is a complex and powerful one. It can be nonlinear and is constantly evolving within the adaptive system of the school (Colquhoun, 2005).

Guidelines can stimulate and support action. Although national governments and local schools decide whether to adopt specific approaches, often their efforts are sparked by and rely on the promulgation of international guidelines, which convey the research evidence on the potential benefits or outcomes. Research has shown how specific national applications make a significant difference. Studies of physician behavior in the United States, for example, have shown that dissemination of national guidelines concerning the evidence about proven clinical practice has increased by 10% the number of physicians who adopt the recommended practice (Cohen, Halvorson, & Gosselink, 1994). A study of the dissemination of the United States Education Department’s Principles of Effectiveness for school alcohol and drug prevention programs found that many school districts reported that they were applying the principles and selecting research-based curricula over previously used ineffective practices (Hallfors & Godette, 2002). Further, reformers of the Russian education system working on its modernization have stated, “It must be emphasized: standards are essential” (Kuz’menko, Lunin, & Ryzhova, 2006). The effectiveness of such guidelines for influencing practice, however, has been shown to be dependent on factors and potential barriers external to their content (Trowbridge & Weingarten, 2001).

Dedicated Time and Resources

Time and resources – such as human, financial, technical, and material – are essential to ensuring change in policy and practice. There must be the workforce



(source unknown)

Fig. 2 Cycle of implementation

with the human capacity and potential, who can dedicate adequate time to implement new programs. Sufficient time and pacing must be allowed to implement a full program cycle. One of the most common reasons a project fails is that managers underestimate how much time it will take and whether their staff and system are ready to take it on (Cohen, 1996; Rogers, 1995). Education systems must determine realistically how much time will be needed and assess staff readiness and willingness to move in the new direction.

Once implementation has begun, it typically takes from 18 months to 3 years to actually see or capture evidence of change. There must be “time for participants to discover for themselves what will and will not work for them” (Greenfield, 1995).

In the beginning, the skills of program implementers – teachers and others – often decline as they try the new skills or strategies, but they gradually surpass their former levels of competence once an innovation is established. Too often we evaluate programs early on, when experimentation is underway, as shown in Fig. 2, *Cycle of Implementation* and may fail to capture the change that is happening.

Stakeholder Ownership and Participation

Amartya Sen, winner of the 1998 Nobel Prize in Economic Science, argues that the freedom of people to participate socially and politically in shaping their lives and what they value is central to human and economic development (Sen, 1999). Sen offers many examples of how people having “agency” (the ability to act and bring about change), coupled with access to basic education and health services, can lift themselves out of poverty and transform societies. The HPS concept addresses all three factors in Sen’s work.

First, central to the concept illustrated in Fig. 1 of the chapter “Introduction and Background” is the participation of parents, community members, teachers, and

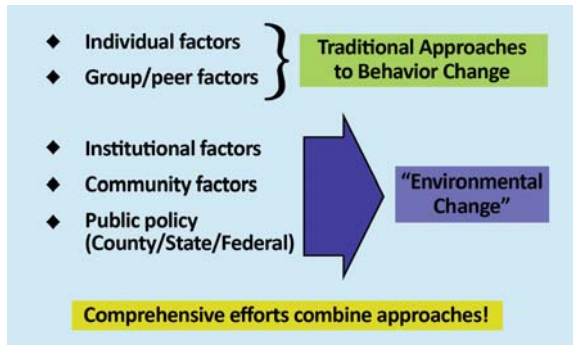


Fig. 3 Social-ecological model (Langford, 2003)

students themselves in a participatory, democratic process to shape the learning environment. Second, the HPS provides health information, skills, and access to health services. And, third, using data on the links among years of schooling, literacy, and health status, advocates of the HPS model argue that one of the most important contributors to healthy development is access to and completion of school, especially for girls.

A study of the implementation of the 1999 National Education Act in Thailand reported that community participation was one of the four essential strategies for successful implementation. Researchers reported that the schools and institutions “reaped benefits...because each community is rich in resources that provide excellent learning environments” and recommended that they “should pay attention to, and seriously plan for, action to get parent and community involvement to achieve success in learning reform” (Khemmani, 2006, p. 122).

Similarly, research on use of the *Social-Ecological Model* (Langford, 2003), illustrated in Fig. 3, reports on the importance of participation across levels and sectors in society for successful implementation of public health innovations (Glasgow & Emmons, 2007). The Social-Ecological Model takes into consideration the complex interplay between individual, relationship, community, and societal factors. Research in support of this model argues that this approach is more likely to sustain prevention efforts over time than any other (Centers for Disease Control and Prevention, n.d.-b).

Team Training and Ongoing Coaching/Learning Community

What form and type of training is most likely to result in practice change? Providing professional development and ongoing opportunities for coaching and peer learning throughout the process of implementing an innovation are important methods to use. Until and unless enough staff, within a ministry of education or local school, are trained and committed to implementing the change in policy and practice, it is

unrealistic to expect that a single person sent off-site to a one-time workshop will be able to return to his or her agency alone and create systemic practice change. For this reason, professional development needs to provide training to teams from the same agency involving *at least* three or four people from the same school or ministry, who then can benefit from ongoing coaching and exchange over time. They then can also become the critical mass that influences organizational norms. Experimental studies on training methods, including those reviewed in a metaanalysis by Joyce and Showers in 2002, “indicate that effective training workshops appear to consist of presenting information (knowledge), providing demonstrations (live or taped) of the important aspects of the practice or program, and assuring opportunities to practice key skills in the training setting (behavior rehearsal)” (Fixsen et al., 2005, p. 41).

Professional development should persist beyond the team training, to provide numerous and frequent opportunities for implementers to receive ongoing coaching and mentoring as well as support and exchange from their peers over time, especially as they try new things (Vince Whitman, 2005). The meta-analysis conducted by Joyce and Showers (2002) revealed “that implementation in educational settings occurred primarily when training was combined with coaching in the classroom” (Fixsen et al., 2005, p. 46). Similar results have been found in mental health (Kelly et al., 2000) and medical settings (Fine et al., 2003).

The literature on education reform includes many references to the benefits from creating forums for networks, where implementers participate in an ongoing exchange of ideas and experiences for continuous learning from each other (Center for Mental Health in Schools at UCLA, 2004; Eick, Ewald, Richardson, & Anderson, 2007; Lynd-Balta, Erklenz-Watts, Freeman, & Westbay, 2006; McCoy, 2006).

Taken together, the two strategies – training teams over individuals, and providing training that motivates, defines actions that make up the intervention, provides tools to perform the actions (Kealey, Peterson, Gaul, & Dinh, 2000), and enables practitioners to gain confidence – are more likely to result in practice change. Such training must be followed by ongoing coaching and mechanisms for sharing and learning from peers and others. These features of professional development are most likely to positively affect implementation.

Cross-Sector Collaboration

There is very little research on the relationship between mechanisms for cross-sector collaboration and the effectiveness of implementation. Needing multiple sectors that work together to implement an innovation adds another layer of complexity to the already complex concept of the Health-Promoting School. Created by the public health field, the HPS ideas must be led by and implemented in the education sector, with support and coordination with health content experts, in particular, and others, including nongovernmental organizations, parent groups, and universities. It is clear that education must lead. Reviewing the role of key

stakeholders in school health and nutrition programs in low-income countries, Bundy et al. (2006) observed that

In nearly every case, the Ministry of Education is the lead implementing agency, reflecting both the goal of school health programs in improving educational achievement and the fact that the education system provides the most complete existing infrastructure for reaching school-age children. However the education sector must share this responsibility with the Ministry of Health, particularly because the latter has the ultimate responsibility for health of children. (p. 1104)

Several strategies are important in the formulation of cross-sector collaboration: making clear links between the education and health outcomes; developing memoranda of understanding and a formal multi-sectoral policy that outlines the roles and responsibilities of each key sector and player; and engaging in widespread dissemination of information and consultation with the many players (Bundy et al., 2006).

Champions and Leaders at all Levels

Individuals who strongly support and advocate for a program – champions – have often been cited by education and health agencies as one of the primary reasons that they have been able to implement innovative programs. For example, an evaluation of the *Promoting Alternative Thinking Strategies* (PATHS) program for ages 6–12 found that good outcomes were associated with principal or headmaster support and high-quality implementation (fidelity, dose, duration). Without principal support, it would not have been possible to achieve the intended outcomes (Kam, Greenberg, & Walls, 2003). The leader’s commitment, dedication, support, and ability to articulate the vision and motivate and inspire others are key (Kotter, 1988). A comprehensive review of 39 local school improvement efforts in the US reported that the one element a change effort cannot be without is the right type of leader. “Leaders must aim not at manipulating subordinates . . . but at motivating followers, who invest themselves actively. This requires leaders who are skillful, but who are above all credible” (Evans, 1993, p. 21).

For implementing complex ideas (such as the HPS) or complex processes (such as implementing evidence-based strategies), leadership talent must exist not only at senior levels but also at every level in ministries, schools and, communities. According to Rogers (1995), the effort of the change agent – whether the leader or his or her designee – is known to predict the rate of diffusion.

Data-Driven Planning and Decision-Making

Routinely using data for planning and decision-making purposes is critical during the implementation process. As discussed earlier, data have informed the link

between education and health and the effectiveness of strategies to address health promotion and prevention in schools. When planning for implementation, a range of data is useful, including:

- Health data on causes of illness, injury, and death, as well as data on risk behaviors and protective factors
- Education data on academic achievement, attendance, dropout, absenteeism, suspensions, and expulsions
- Asset and resource assessment of the human and financial capacities that systems can bring to the planning and implementation process
- Readiness data on the stage of commitment, dedication of key players, and knowledge of what is needed to create change
- Data on indicators that will be used to monitor progress over time: reach and impact

Data are essential to plan and drive the process and to inform its direction and redirection over time. As with any evaluation, identifying the many stakeholders and what data are needed to inform them over time is a key strategy within an ongoing communications strategy.

Administrative and Management Support

One of the most decisive elements affecting the success of any innovation is the availability of comprehensive and skilled administrative and management support. Without clearly assigned roles, a defined organizational structure, and close monitoring, a project may fail to achieve its prospective aims. Some have argued that inability to appreciate the effects of these dynamics on efforts to adequately plan and manage the change process may ensure failure (Fullan, Cuttress, & Kilcher, 2005). In the education sector and elsewhere, the development of a strategic plan or logic model that provides administrative and management support for carrying out activities relative to goals is routinely recognized as important in achieving outcomes. Recently, an investigation into the reform efforts of the District of Columbia public schools found that lacking “a plan that sets priorities, implementation goals, and timelines, it may be difficult to measure progress over time and determine if [a school district] is truly achieving success” (Ashby, 2008, p. 2).

By employing effective processes for communication, as well as tracking and monitoring progress according to time and budget constraints, implementers will be able to ensure accountability and the efficient use of resources (Vince Whitman, 2005). New technologies and systems for data collection and analysis are also much more likely to be used appropriately and extensively when sufficient administrative and management support is available (Wayman & Stringfield, 2004). Even with teacher buy-in to the change process, administrative support is an essential factor in success. In a study conducted in 2005 to encourage greater science instruction at the elementary level, researchers found that while teachers were generally positive, the

full integration of the new program was stalled by insufficient administrative support (Kelly & Staver, 2005). Research shows that this lack of support is also one of the leading factors of higher teacher attrition rates (Gonzalez, Brown, & Slate, 2008).

Adapting to Local Concerns

All implementers must pay attention to the concerns of the users. The Concerns-Based Adoption Model has demonstrated the 80–20 rule. Unless implementers dedicate 80% of their time and attention to users' concerns, they have only a 20% chance of success (Loucks-Horsley, 1996). Beyond understanding basic concerns, ministries and schools can use the growing body of evidence on evaluated programs and strategies to help them make decisions about what to invest in doing.

But evidence of effectiveness in one setting may not apply to another. Many of the settings to which a program will be transferred are not identical to the one that produced results; the culture and ethnicity of students, the type of school system (urban, rural, and suburban), and income level of families and communities may vary. Most evaluated programs are from resource-rich areas, and their adaptation to resource-poor areas requires careful consideration. In choosing what to adapt, implementers must think through how much change or adaptation a program can undergo without threatening its ability to produce similar results. What are the core elements, dosage, and duration that cannot be changed? Research shows that attention to fidelity is critical for successful outcomes (Backer, 2001).

Attention to External Forces

Change can be stimulated and driven by a range of factors in the macro environment. For education and reform and schools, such factors can include government laws and regulations affecting education; national or international comparisons on test scores; and major economic, demographic, health, and social-political changes. Actions taken by major donors, such as United Nations agencies, foundations, and the World Bank, all influence governments in their educational priorities.

In a review of curriculum implementation in South Africa, the role of very dynamic nongovernmental organizations (NGOs), which were established in the 1970s and 1980s, was described as “able to stimulate innovation and undertake professional activities, particularly in black education, in ways that the apartheid government was either unable or unwilling to do” (Rogan & Grayson, 2008, p. 152).

Being aware of and capitalizing on a range of external factors that drive change can support various aspects of the implementation process (Rogan, 2003).

Critical Mass and Supportive Norms

A large enough number of people in any one institution or in the broader society is required to carry the message and principles forward and influence others to join the movement. A critical mass of people who share supportive norms is necessary for creating new thinking and practices within and across systems. People in groups tend to move toward normative actions, that is, toward what they believe most people are doing (Kübler, 2001). Having this critical mass can create a tipping point in supporting the implementation of innovations. Rogan (2003) writes:

Professional forces rely essentially on convictions arising from a sense of belonging and having obligations to a professional community. Cultural and democratic forces rely on shared values and goals about teaching and learning, as well as notions about the role of education in a democratic society. A critical mass of like-minded teachers, for example, might form a “learning community”, which begins to chart new ideas and practices for that school. These community-based changes . . . are likely to be “deep” and enduring. (p. 1177)

Stage of Readiness

The readiness of organizations or institutions to implement changes to policy or practice is contingent on a variety of conditions, influenced by the factors described above and others. The uniqueness of each organization and situation offers many challenges to the assessment of readiness and the implementation process. Still, research suggests three general areas that affect the overall stage of readiness: strategic planning, preparation, and the organizational readiness and functioning for the actual implementation process (Simpson, 2002; Simpson & Flynn, 2007). Organizational readiness and functioning depend on several factors, such as the level of motivation among staff and the surrounding community, assessment of risks and anticipated outcomes, professional development and training, and the availability of resources and support (McKee, Manocontour, Saik Yoon, & Carnegie, 2000). By carefully addressing these concerns, readiness can be enhanced and maintained throughout the implementation process.

Overall motivation and general receptiveness and buy-in of an organization to a particular innovation or program can also be seen as closely mirroring the stages of individual behavior change originally outlined by Prochaska. This model emphasizes six distinct stages that can be used to identify the challenges to, and likelihood of, changing an individual’s behavior: precontemplation, contemplation, preparation, action, maintenance, and termination (Prochaska & Velicer, 1997). For groups of individuals, progression through these stages is affected by the ability “to mobilize collective support by building and shaping awareness among organizational members about the existence of, sources of, and solutions to the organization’s problems” (Backer, 1995, p. 34). Strong leadership and the availability of

useful institutional resources can generate individual motivation and a supportive and receptive organizational climate that improve the stage of readiness (Saldana, Chapman, Henggeler, & Rowland, 2007).

Last, the connections among theory, research, and practice must be well understood to advance the stage of readiness (Vince Whitman, 2005). Knowledge of how to accurately interpret other experiences and research for use in a new setting can bridge these areas and help to establish workable plans for evaluation and monitoring. Benefiting from user-friendly tools and best practices models, schools, implementers, and communities can assess readiness and the feasibility of a proposed research-based program. The Organizational Readiness for Change scale (Lehman, Greener, & Simpson, 2002) and other tools can help to make the research-to-practice process much clearer and allow for more confident selection of relevant programs for implementation, particularly when supported by broader institutions (Harding & Goddard, 2000). Still, the evidence base regarding the predictive validity of these tools is just beginning to expand (Fixsen et al., 2005); although they can aid in assessing the stage of readiness, the “successful transfer of evidence-based innovations to real-world applications requires careful planning, implementation, and on-going evaluations of the progress being made” (Simpson, 2002, p. 4). If adequate readiness is not achieved and maintained throughout the process, implementers may observe lower levels of organizational and individual reliability and longer timeframe allowances, if not complete project collapse (Fixsen et al., 2005).

The 12 Wheel factors, as well as those from other models, are very important for success in the implementation process. In the next chapter, using these factors, we analyze 26 cases from around the world, illustrating and making these strategies come alive.

References

- Ashby, C. M. (2008). *District of Columbia public schools: While early reform efforts tackle critical management issues, a district-wide strategic education plan would help guide long-term efforts*. Washington, D.C.: U.S. Government Accountability Office.
- Backer, T. (2001). *Finding the balance: Program fidelity and adaptation in substance abuse prevention*. Rockville, MD: National Center for Advancement of Prevention.
- Backer, T. E. (1995). Assessing and enhancing readiness for change: Implications for technology transfer. In T. E. Backer, S. L. David, & G. Saucy (Eds.), *Reviewing the behavioral science knowledge base on technology transfer*. Rockville, MD: U.S. Department of Health and Human Services.
- Berman, P., & McLaughlin, M. W. (1975). *Federal programs supporting educational change: The findings in review* (Vol. 4). Santa Monica, CA: Rand Corporation.
- Bundy, D. A. P., Shaeffer, S., Jukes, M., Beegle, K., Gillespie, A., Drake, L., et al. (2006). School-based health and nutrition programs. In D. T. Jamison, et al., (Eds.), *Disease control priorities in developing countries* (2nd ed.). Washington, D.C.: World Bank.
- Capacity Building (n.d.). *Wikipedia*. Retrieved October 15, 2008, from http://en.wikipedia.org/wiki/Capacity_building

- Center for Mental Health in Schools at UCLA (2004). *Sustaining school and community efforts to enhance outcomes for children and youth: A guidebook and tool kit*. Los Angeles: University of California.
- Centers for Disease Control and Prevention (n.d.-a). *CDC Injury Center*. Retrieved August 27, 2008, from <http://www.cdc.gov/ncipc/>
- Centers for Disease Control and Prevention (n.d.-b). *CDC injury center: The social-ecological model*. Retrieved August 27, 2008, from http://www.cdc.gov/ncipc/dvp/Social-Ecological-Model_DVP.htm
- Cohen, S. (1996). *Research to improve implementation and effectiveness of school health programmes*. Geneva: World Health Organization.
- Cohen, S., Halvorson, H. W., & Gosselink, C. A. (1994). Changing physician behavior to improve disease prevention. *Preventive Medicine*, 23(3), 284–291.
- Colorado Department of Public Health and Environment (2005). *Office of Health Disparities: Public Health Terms*. Retrieved August 27, 2008, from <http://www.cdph.state.co.us/ohd/glossary.html>
- Colquhoun, D. (2005). Complexity and the health promoting school. In B. B. Jensen & S. Clift (Eds.), *The health promoting school: International advances in theory, evaluation and practice*. Copenhagen: Danish University of Education Press.
- Durlak, J. A., & Dupre, E. P. (2008). Implementation matters: A review of research on the influence of implementation on program outcomes and the factors affecting implementation. *American Journal of Community Psychology*, 41(3), 327–350.
- Education Reform (n.d.). *Wikipedia* Retrieved August 27, 2008, from http://en.wikipedia.org/wiki/Education_reform
- Eick, C. J., Ewald, M. L., Richardson, V. B., & Anderson, K. (2007). Building a leadership network supporting science education reform in rural east Alabama. *Science Educator*, 16(1), 8–12.
- Evans, R. (1993). The face of human reform. *Educational Leadership*, 51(1), 19–23.
- Fine, M. J., Stone, R. A., Lave, J. R., Hough, L. J., Obrosky, D. S., Mor, M. K., et al. (2003). Implementation of an evidence-based guideline to reduce duration of intravenous antibiotic therapy and length of stay for patients hospitalized with community-acquired pneumonia: A randomized controlled trial. *The American Journal of Medicine*, 115(5), 343–351.
- Fixsen, D. L., Naoom, S. F., Blase, K. A., & Friedman, R. M. (2005). *Implementation research: A synthesis of the literature*. Tampa, FL: USF University of Southern Florida.
- Fullan, M., Cuttress, C., & Kilcher, A. (2005). Eight forces for leaders of change: Presence of the core concepts does not guarantee success, but their absence ensures failure. *Journal of Staff Development*, 26(5), 54–58.
- Glasgow, R. E., & Emmons, K. M. (2007). How can we increase translation of research into practice? Types of evidence needed. *Annual Review of Public Health*, 28, 413–433.
- Gonzalez, L. E., Brown, M. S., & Slate, J. R. (2008). Teachers who left the teaching profession: A qualitative understanding. *Qualitative Report*, 13(1), 1–11.
- Greenfield, T. A. (1995). Improving chances for successful educational reform. *Education*, 115(3), 464–474.
- Hallfors, D., & Godette, D. (2002). Will the ‘principles of effectiveness’ improve prevention practice? Early findings from a diffusion study. *Health Education Research*, 17(4), 461–470.
- Harding, W., & Goddard, C. (2000). *Assessing the feasibility of implementing a science-based prevention program: A tool for practitioners*. Paper presented at the Working Together for Prevention: Building State and Community Systems, National Conference for the State Incentive Grant and the Center for the Application of Prevention Technologies Programs, Washington, D.C.
- Joyce, B., & B. Showers. (2002). *Student Achievement Through Staff Development*. 3rd ed. Alexandria, VA: Association for Supervision and Curriculum Development.

- Kam, C., Greenberg, M. T., & Walls, C. T. (2003). Examining the role of implementation quality in school-based prevention using the PATHS curriculum. *Prevention Science*, 4(1), 55–63.
- Kealey, K. A., Peterson, A. V., Jr., Gaul, M. A., & Dinh, K. T. (2000). Teacher training as a behavior change process: Principles and results from a longitudinal study. *Health Education & Behavior*, 27(1), 64–81.
- Kelly, J. A., Somlai, A. M., DiFranceisco, W. J., Otto-Salaj, L. L., McAuliffe, T. L., Hackl, K. L., et al. (2000). Bridging the gap between the science and service of HIV prevention: Transferring effective research-based HIV prevention interventions to community AIDS service providers. *American Journal of Public Health*, 90(7), 1082–1088.
- Kelly, M. P., & Staver, J. R. (2005). A case study of one school system's adoption and implementation of an elementary science program. *Journal of Research in Science Teaching*, 42(1), 25–52.
- Khemmani, T. (2006). Whole-school learning reform: Effective strategies from Thai schools. *Theory Into Practice*, 45(2), 117–124.
- Kotter, J. P. (1988). *The leadership factor*. New York: Free Press.
- Kübler, D. (2001). On the regulation of social norms. *Journal of Law, Economics and Organization*, 17(2), 449–476.
- Kuz'menko, N. E., Lunin, V. V., & Ryzhova, O. N. (2006). On the modernization of education in Russia. *Russian Education and Society*, 48(5), 5–22.
- Langford, L. (2003). Using Policy as Part of a Public Health Approach, *Presentation at All-HHD Meeting*, 3 Nov 2003. Newton, MA: Education Development Center, Inc.
- Lehman, W. E., Greener, J. M., & Simpson, D. D. (2002). Assessing organizational readiness for change. *Journal of Substance Abuse Treatment*, 22(4), 197–209.
- Loucks-Horsley, S. (1996). Professional development for science education: A critical and immediate challenge. In R. Bybee (Ed.), *National standards and the science curriculum*. Dubuque: Kendall.
- Lynd-Balta, E., Erklenz-Watts, M., Freeman, C., & Westbay, T. D. (2006). Professional development using an interdisciplinary learning circle: Linking pedagogical theory to practice. *Journal of College Science Teaching*, 35(4), 18–24.
- McCoy, M. L. (2006). Collaboration through study circles. *Journal of Family and Consumer Sciences*, 97(1), 71–73.
- McKee, N., Manocountour, E., Saik Yoon, C., & Carnegie, R. (Eds.). (2000). *Involving people, evolving behaviour*. Penang, Malaysia: UNICEF.
- Prochaska, J. O., & Velicer, W. F. (1997). The transtheoretical model of health behavior change. *American Journal of Health Promotion*, 12(1), 38–48.
- Rogan, J. M. (2003). Towards a theory of curriculum implementation with particular reference to science education in developing countries. *International Journal Science Education*, 25(10), 1171–1204.
- Rogan, J. M., & Grayson, D. J. (2008). Towards a theory of curriculum development with reference to science education in developing countries. In M. Nagao, J. Rogan & M. Magno (Eds.), *Mathematics and science education in developing countries: Issues, experiences, and cooperation prospects*. Quezon City: University of the Philippines Press.
- Rogers, E. M. (1995). *Diffusion of innovations* (4th ed.). New York: Free Press.
- Saldana, L., Chapman, J. E., Henggeler, S. W., & Rowland, M. D. (2007). The organizational readiness for change scale in adolescent programs: Criterion validity. *Journal of Substance Abuse Treatment*, 33(2), 159–169.
- Sen, A. (1999). *Development as freedom*. Oxford: Oxford University Press.
- Senderowitz, J. (2000). A review of program approaches to adolescent reproductive health, *Poptech Assignment Number 2000.176*. Washington, D.C.: International Science and Technology Institute, Population Technical Assistance Project.
- Simpson, D. D. (2002). *Organizational readiness for treatment innovations*. Fort Worth, TX: Institute of Behavioral Research, Texas Christian University.

- Simpson, D. D., & Flynn, P. M. (2007). Moving innovations into treatment: A stage-based approach to program change. *J Subst Abuse Treat* 33 (2):111–120.
- Smith, J., & Colvin, C. (2000). Getting to scale in young adult reproductive health programs, *FOCUS Tool Series, No. 3*. Washington, D.C.: FOCUS on Young Adults, Pathfinder International.
- St. Leger, L. (2005). Protocols and guidelines for health promoting schools. *Promotion and Education*, 12(3–4), 145–147, 193–195, 214–216.
- Trowbridge, R., & Weingarten, S. (2001). Practice guidelines. In K. Shojania, B. Duncan, K. McDonald, & R. Wachter (Eds.), *Evidence report/technology assessment: Making health care safer: A critical analysis of patient safety practices*. Rockville, MD: Agency for Healthcare Research and Quality.
- UNESCO, UNICEF, WHO, & World Bank (2000). *Focusing resources on effective school health: A FRESH start to enhancing the quality and equity of education*. Washington, D.C.: World Bank.
- US Forest Service (2005). *Northeastern Research Station, Research and Development: Glossary*. Retrieved August 27, 2008, from http://www.fs.fed.us/ne/newtown_square/research/themes/glossary.shtml
- Viljoen, C. T., Kirsten, T. G. J., Haglund, B., & Tillgren, P. (2005). Towards the development of indicators for health promoting schools. In B. B. Jensen & S. Clift (Eds.), *The health promoting school: International advances in theory, evaluation and practice*. Copenhagen: Danish University of Education Press.
- Vince Whitman, C. (2005). Implementing research-based health promotion programmes in schools: Strategies for capacity building. In B. B. Jensen & S. Clift (Eds.), *The health promoting school: International advances in theory, evaluation and practice* (pp. 107–135). Copenhagen: Danish University of Education Press.
- Wayman, J. C., & Stringfield, S. (2004). Technology-supported involvement of entire faculties in examination of student data for instructional improvement. *American Journal of Education*, 112(4), 549–571.
- World Health Organization (1997). Promoting health through schools. Report of a WHO Expert Committee on Comprehensive School Health Education and Promotion, *WHO Technical Report Series, No. 870*. Geneva: WHO.

Case Studies in Global School Health Promotion
From Research to Practice

Vince Whitman, C.; Aldinger, C.E. (Eds.)

2009, XVII, 404 p., Hardcover

ISBN: 978-0-387-92268-3