Inclusive Education and the Three-Block Model of UDL: Outcomes and Implementation Processes

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Abstract

The Three-Block Model of UDL is a framework encompassing the cornerstones of inclusive education; social and emotional well-being and belonging, inclusive instructional practice, and systems and structures. Research indicates the model has significant, positive impacts on students' self-concept, respect for diverse others, inclusivity, classroom climate, and social and academic engagement while reducing exclusion, and aggressive behaviour. Implementation of the model reduces teacher stress, improves teacher efficacy relative to teaching diverse learners, and requires specific supports for effective implementation.

Keywords

Three-Block Model of UDL, social inclusion, academic inclusion, student engagement, implementation, teacher professional learning (TPL)

INTRODUCTION

The Three-Block Model of UDL (Katz, 2012a; 2012b)(see Figure 1 in the Appendix), provides teachers with a method for creating inclusive learning communities. Decades of research on inclusive educational practice are synthesized into a practical, classroom-based pedagogy that utilizes a step-by-step process for implementing inclusive education. The model is comprised of three blocks reflecting goals related to social inclusion, academic inclusion, and systems change.

The first block examines *Social and Emotional Learning (CASEL, 2014)*, and involves building compassionate learning communities in which all students feel safe, valued, and have a sense of belonging. To facilitate social inclusion, the *Respecting Diversity* program (Katz & Porath, 2011; Katz, Porath, Bendu, and Epp, 2012) is used at the beginning of the school year to develop student self-concept, respect for diverse others, and an inclusive classroom climate. The program involves eight lessons that introduce students to their own and other learning profiles, and how diversity benefits a community.

In the second block of this model, which focuses on facilitating academic inclusion, a step-by-step planning and instructional framework is outlined (Katz, 2012a). Physical and instructional environments are designed so that students have access to differentiated learning opportunities in order to address their varied learning modes. Essential understandings within curricula are identified, and inquiry activities that promote higher order thinking are planned. Expectations for success and challenging lessons influence student academic engagement and achievement, social engagement, and health and wellness (Willms et al., 2009). Thus the model seeks to emphasize mastery of complex concepts and access to general curriculum for all students, with scaffolding through team work and differentiated processes. Course materials are differentiated in terms of level of complexity, methods of acquiring knowledge, and strategies for demonstrating understanding. As part of this practice, teachers build rubrics that reflect multiple developmental levels of understanding, and can be used to assess multi-modal expressions of understandings. Regular feedback and assessment is ongoing so teachers can assess for learning and, when needed, conduct assessment/evaluation of learning, including grading (Katz, 2012a).

The third block, appropriately titled "Systems & Structures," focuses on systematic changes necessary to create truly inclusive school systems. Budgeting, staffing, policy, distributed leadership, collaborative practice, service delivery models, and teacher professional learning are all explored as vehicles for large-scale implementation of the model (Katz, 2012a; Katz & Epp, 2013). In addition, this block outlines tier-two and tier-three practices for supporting students with significant disabilities within inclusive classrooms (Katz, 2013a).

The Three-Block Model (TBM) seeks to synthesize what we know about effective practices for inclusion. It builds on the work of CAST (www.cast.org) on universal design for learning (UDL), and CASEL (www.casel.org) on social and emotional learning (SEL), and other significant educational support networks and pedagogies. It provides a framework for planning and instruction that is both practical and holistic, and includes the key components necessary for creating socially and academically inclusive schools. This is not solely about students with disabilities, those from disadvantaged homes, or those from minority cultures. It is about *all learners* growing and learning *together*.

RESEARCH OUTCOMES

Significant research indicates that social and emotional well being directly affects student learning and can even impact neurological development (Davidson, 2010; Zins,

Bloodworth, Weissberg, & Walberg, 2004). Research exploring outcomes of the Three-Block Model of UDL has been conducted with K-12 students and teachers. Three studies will be highlighted.

Study One
In the first study, emotional and behavioral outcomes of the *Respecting Diversity* (RD) program, a social and emotional learning (SEL) intervention designed to develop self-awareness, self-respect and respect for diverse others, (part of the first block of the TBM), were investigated with 218 students in grades four to seven and their teachers (Katz & Porath, 2011; Katz, Porath, Bendu, & Epp, 2012). Intervention and control groups were assessed pre and post intervention for level of self-awareness, self-respect, awareness of others, and respect for others. Measures of classroom climate were also included. Students completed several measures of SEL, and a selected sample were interviewed to obtain detailed information about their experiences with the RD program.

Data were analyzed using thematic content analysis procedures and repeated measures MANCOVAs. The intervention significantly increased students' self-respect, awareness of others, and respect for others, while students in control classrooms decreased in these factors. Classroom climate also significantly improved for treatment classrooms, according to both teachers and students and, conversely, decreased in control classrooms. The program reduced students' feelings of exclusion and incidents of aggressive behavior, resulting in teachers noting they could "focus on teaching." A smaller study conducted with students exhibiting learning and behavioral challenges found similar results (Glass, 2013).

Table 1. Social & emotional variables

Aggregate Variable	df	F	partial η
Overall	5,204	14.267*	.23
Self-Awareness	1,209	23.244*	.10
Self-Respect	1,209	48.635*	.17
Awareness of Others	1,209	23.974*	.08
Respect for Others	1,209	32.817*	.13
Class Climate	1,209	42.411*	.13

(Katz & Porath, 2011)

Study Two
Children's academic engagement predicts their achievement in and completion of school (Skinner, Kindermann & Furrer, 2009). Students who are highly engaged at school learn more, get higher grades, and more often pursue higher education (Park, Holloway, Arendtsz, Bempechat , & Li, 2012). In the second study, outcomes related to student academic and social engagement when the Three Block Model of Universal Design for Learning was implemented were investigated in a second large, mixed-design research study (Katz, 2012c; Katz, 2013b). Six hundred and seventy-one students from grades one to twelve attending ten schools located in two rural and three urban school divisions in Manitoba took part in the study. Intervention and control groups were assessed before and during intervention for academic and social engagement. Student and teacher demographics, types of task and assigned grouping structures were investigated to determine impacts on engagement. Students completed several measures of classroom climate, belongingness, student autonomy, and inclusivity/exclusivity. A selected sample were observed, to obtain detailed information about their engaged behavior.

Data were analyzed using repeated measures MANCOVAs. The intervention significantly increased students' engaged behavior, particularly active engagement, and promoted social engagement through significantly increased peer interactions, student autonomy, and inclusivity. Engagement levels often decrease as students move through the educational system into high school (Fredricks, Blumenfeld, & Paris, 2004; Shernoff, Csikszentmihalyi, Schneider, & Shernoff, 2003). It is encouraging, therefore, that results of the Katz (2013b) study showed the Three-Block Model of UDL had significant impacts on the engagement of students, at the elementary and especially at the high school level.

Table 2. Engaged behavior outcomes

Variable	Age/Grade	Df	F	partial η
Overall Engaged Behavior	Elementary	9, 48	62.564*	.528
	Secondary	9, 32	89.584*	.691
Active Engagement	Elementary	1, 48	75.464*	.574
	Secondary	1, 32	79.542*	.665
Passive Engagement	Elementary	1, 48	38.571*	.408
	Secondary	1, 32	25.634	.391
Non-Engagement	Elementary	1, 48	20.632*	.269
	Secondary	1, 32	56.486*	.585

(Katz, 2013b)

Study Three
Every province in Canada has policy related to inclusion. Implementation varies widely however, not only between provinces, but from school to school (Timmons 2006). Similar inconsistencies have been reported in other countries (Savolainen et al. 2012). As Slee and Allan note, "we are still citing inclusion as our goal, still waiting to include, yet speaking as if we are already inclusive" (2001, 181). Concern has been expressed about the level of stress teachers in inclusive classrooms experience (Brackenreed, 2011). Almost half of Canadian teachers quit before retirement age, explaining that high stress levels and feelings of lack of support have led them to burnout (Canadian

Teachers Federation, as cited in Brackenreed 2011). Internationally, almost half of beginning teachers leave in the first five years of teaching, and another 50% of those who remain will leave the profession before retirement age (Høigaard, Giske, and Sundsli 2012; Kain, 2012). According to the U.S. Department of Education, "in some schools and districts, the teacher dropout rate is actually higher than the student dropout rate" (2004-2005 7-9).

It is clear that any new pedagogical reform will have to enhance both teaching and learning, serving both teachers and students. For that reason, a concurrent study with fifty-eight teachers of grades one to twelve explored the outcomes of implementing the Three-block Model of UDL for teachers (Katz, in press). Teachers' perceptions related to the outcomes of the implementation of the model for both students and themselves were gathered, giving voice to teachers working in challenging, diverse classrooms regarding the barriers they face to inclusive practice, and what supports are needed. After implementing the model, teachers reported positive student outcomes in terms of reductions in challenging behavior, improved student-to-student interactions, engagement, and learning (see Table 3). They also believed the model improved their practice and self-efficacy related to inclusive education, reduced their workload, and improved job satisfaction (see Table 4).

Table 3. Teacher perceptions of student outcomes

Themes	Supporting Evidence (Quotes)
Reduced challenging behavior	o "I also found that with more emphasis being placed on SEL, I had to spend less time disciplining" o "We don't have the behaviour issues we did in the past" o "Office referrals are down significantly"
Improved self-esteem	o "End result can be very rewarding for all students, especially the student who hasn't been successful with the traditional assessments"
Improved student to student interactions	o "Students that would not work with certain individuals were playing at recess together, working together and I was definitely spending less time dealing with issues between students."
Increased risk taking	o "Risk-taking is at an all time high" o "The difference is that "Student X" actually wants to attend school and is willing to take risks"
Leadership	o "I think it is almost magical to watch some students, who have always been very shy, quiet, or "weak" come out of their shells and blossom into class leaders"

Learning	o "Our students are progressing rapidly in reading, writing and basic math skills." o "Students know big ideas and where their learning should be going" o The impact of the respect the students gained for their peers during the meetings and its transfer during periods of school work became very evident.
Engagement	o Very engaging – students really enjoyed the diverse activities and centers.

(Katz, in press)

Table 4. Common themes related to teacher instructional practices and job satisfaction

Themes	Supporting Evidence (Quotes)
Supportive of Philosophy	o "I completely believe in teaching this way. It takes a tough class to really realize the positive effect it has on all students and adults in the classroom." o "UDL seems to me to be a potential key to opening the door to turn our shared beliefs about inclusion into a reality reflected consistently throughout our regular practice in our schools."
Teacher Self-efficacy	o "I feel good knowing the students are receiving quality instruction that is more meaningful and do-able." o "We have become more confident and competent in our ability to plan."
Teacher ownership / reflectivity	o "It was easy for me to mount up the excuses for why things weren't working. This showed me how to make things work." o "This has given me the opportunity to start thinking more deeply about what I have been doing to students and helping me realize that I need to work on doing things for students to have success." o "It made me realize you can't learn to swim when you're never allowed in the water."
Improved Assessment Practices	o "Made assessment quicker and smoother." o "I love the rubrics!"
Organization	o "I was extremely organized due to this process, and the activities planned were better because of idea sharing." o "Focuses the unit and instruction"

Reduced workload	o "It makes my life as a teacher so much easier and I marvel at how I didn't figure it out myself" o "Thank you for giving me strategies and ideas that will make my job easier and enhance the school lives of my students."
Job Satisfaction	o "I would never have survived this year without this – especially the RD program" o "I should have been teaching this way all along – it makes coming to work exciting" o "I find I enjoy teaching more than ever before in my career."

(Katz, in press)

In contrast to their reports of positive student outcomes and positive reports of instructional practices and job satisfaction, teachers also articulated several barriers to its implementation, including the need for collaborative planning time, differentiated resources, professional learning communities, and public education (Katz, in press).

Students' social and emotional learning, and student engagement predict academic achievement (Brock, Nishida, Chiong, Grimm, & Rimm-Kaufamn, 2008; Malecki & Elliott, 2002; Zins et al., 2004). The Three-Block Model has been shown to promote SEL, and engagement (Katz, 2013b; Katz & Porath, 2011). Teachers indicate that their students "understand the concepts more deeply," (Katz, in press). Thus, one would expect that implementation of the model would improve accessibility and learning for diverse learners. Research is currently underway investigating the academic achievement of students learning in classrooms implementing the Three-Block Model, to specifically identify the impacts on critical and higher order thinking, concept attainment, and literacy and numeracy levels.

THE TBM IMPLEMENTATION PROCESSES
Individual teachers, classrooms, schools, and school divisions have all sought to implement the Three-Block Model of UDL. Across Canada, school divisions in six of ten provinces have taken on the model as a pedagogical framework for teaching all learners. Government ministries in Manitoba and New Brunswick have promoted the model as part of provincial policy.

Desimone (2009) and Penuel et al. (2007) argued that there is a convergence of evidence that supports a list of critical, core features of effective teacher professional learning (TPL). These features include:

(a) A focus on content that assists teachers in understanding how students learn.

(b) Active learning for teachers that is "imbedded in classroom context constructed through experience and practice" (Bruce, Esmonde, Ross, Dookie, & Beatty, 2010, p. 1599).

(c) Coherence between the TPL, the teachers' beliefs and knowledge, and the school division's policy initiatives.

(d) A duration of at least 20 hours spread over at least one semester.

(e) Collective participation of teachers from the same school, school division, or grade.

Furthermore, effective models incorporate both "top-down" initiatives such a policy development at the divisional level with "bottom-up" supports such as PLCs (Fullan, 2000). When these components are in place, they can lead to increases in teacher knowledge and skills, which in turn affect behaviours that precipitate positive student outcomes (Desimone, 2009).

Initial attempts at sharing the model with teachers began with one and two day workshops in schools, courses at university, and word of mouth sharing from one teacher to another. While this resulted in *buzz* about the model, and inspired teachers to seek more information, it did not adequately prepare teachers to be able to design units and create classroom environments reflective of the goals and values it promotes.

The research studies noted previously (Katz, 2013; Katz & Porath, 2011) reflected two to three days of TPL for teachers; an initial one or two day workshop, followed by two half-days of collaborative planning times, facilitated by the developer. Although the results were positive, many teachers expressed the "need to know more," if they were to continue and refine implementation. For that reason, the Manitoba Alliance for Universal Design for Learning (MAUDeL), formed by Dr. Jennifer Katz, in partnership with the provincial teachers' union, government ministry, community disability organizations, and school division personnel, now promotes a two year TPL plan. It encompasses five days of training in year one, followed by three days in year two.

Year one components:

1. A two day workshop introducing pedagogy of the model and the design/planning process it suggests.

2. One day of facilitated planning time for teachers to plan a unit.

3. One day of training in implementation / classroom management of the framework.

4. A follow-up day, after teachers have attempted their first unit to answer questions and refine understandings.

Year two components:

1. A focus on literacy and numeracy instruction.

2. In depth discussion of assessment and evaluation processes.
3. Introduction to tier two/ tier three processes within a UDL framework (i.e. how to socially and academically include students with significant disabilities).

While school divisions working with the model have engaged with these processes, they have done so in unique ways. Some divisions have chosen to create model schools. For example, staff from three different schools, one early years (K-4), one middle years (5-8), and one senior years (9-12) school, are trained so that there is cohesion and a school wide vision. These schools can then serve as places for teachers throughout the division to visit, and teachers from within the schools become facilitators of PLC's around the division. In several other divisions, school teams consisting of two classroom teachers, one resource (special education) teacher, and an administrator from every school in the district are being trained. The idea is that they will go back, and with the resource teacher co-teaching in each of the classrooms, put the model into place. This will "plant seeds" in every school in the division, in the hope that other teachers in each school can then go and visit these model classrooms, and be facilitated to implement it in their own class, with the support of the resource teacher and school based administrator. Research is currently exploring the outcomes of these varying frameworks for TPL and implementation of the Three-Block Model of UDL.

In addition to in-district TPL, the University of Manitoba offers several courses at the post-baccalaureate, Masters, and Ph.D. level in inclusive education that provide training in the TBM. Two of these courses are offered both on campus and online and a summer institute operates each summer for two weeks. New courses are being developed relating to block one, Social and Emotional Learning in collaboration with the Educational Psychology department, and block three, Systems and Structures, in collaboration with the Educational Administration faculty.

The Three Block Model of UDL has been presented at conferences across Canada and in Spain at the International Congress of Educational Sciences, and is being taught in universities in Australia and Canada. Continued research will further delineate its outcomes for a variety of student groups, and in varying regions.

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Appendix

Figure 1. The Three Block Model of Universal Design for Learning.

<u>**System & Structures**</u>

- Inclusive Policy – No "Except!"
- Hiring of administrators with expertise/vision
- Distributed Leadership
- Professional Development/TPL
- Staffing to support collaborative practice
    - o Team planning time, scheduling in cohorts/teams
    - o Resource / EA allocations to classrooms / cohorts, not individual children
    - o Co-planning, Co-teaching, co-assessing
    - o Consistent, authentic assessment across classes – rubrics
- Budgeting
    - o Changed from segregated practices/funding allocations
    - o Assistive technology
    - o Multi-leveled resources

<u>**Inclusive Instructional Practice**</u>

- Integrated Curriculum
- Student Choice
- Flexible Groupings / Co-operative Learning
- Differentiated Instruction
- Differentiated Assessment
- Assessment for learning / Class Profiles / Strategic Teaching
- Technology
- Discipline Based Inquiry
- Meta-Cognition – Assessment as learning
- Understanding by Design / Essential Understandings
- Social & Academic Inclusion of Students with Exceptionalities

<u>**Social and Emotional Learning – Developing Compassionate Learning Communities**</u>

- Respecting Diversity (RD) Program
- Spirit Buddies
- Developing Self-Concept
- o Awareness of and pride in strengths and challenges
- o ***Understanding, Belonging, Doing***
- o Goal setting and planning – building a vision for the future, self-efficacy, hope
- o Leadership skills / opportunities
- Valuing Diversity
- o Awareness of the strengths and challenges of others
- o Valuing of diverse contributions to community
- o Sense of collective responsibility for well-being, achievement of all
- o Empathy, Perspective taking, Compassion
- Democratic Classroom Management
- o Collective problem solving, recognition of rights and responsibilities
- o Promotion of Independent learning, student choice & empowerment, leadership
- o Increase in student engagement, ownership