



A Feasibility Study of The Zones of Regulation® curriculum as part of Tier I MTSS

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Abstract

Current study explores feasibility for implementing The Zones of Regulation® curriculum¹ in a general education classroom as part of pro-active Multi-Tiered System of Support (MTSS)² at Tier I. Conducted from wellness/prevention standpoint. Author determined feasibility for replication of study design for eventual carryover to other general education classrooms. Aim to explore feasibility of systems approach. Results indicate that intervention may be feasible to replicate in a general education classroom as part of MTSS. Survey data indicated intervention as presented was also effective. Students overall scores improved on the Adapted Zones survey³ in a statistically significant manner from pre to post intervention ($p < .01$) with medium effect. Using the DESSA-Mini⁴ teacher questionnaire, social emotional competencies demonstrated group improvements that were statistically significant ($p < .01$) from pre to post intervention with smaller effect. Qualitative data analysis revealed the following themes: *Collaboration and consultation, Group size for discussion/Student Engagement, Time commitment, and Adaptations to Enhance Overall Feasibility.*

Purpose

The current project is to assess the feasibility of The Zones of Regulation® Curriculum in a classroom of 4th grade students at a public elementary school. Specifically, study aims to answer 3 research questions:

1. *What is the feasibility of the implementation of The Zones of Regulation® curriculum in a 4th grade classroom as part of general education?*
2. *What is the perception of a 4th grade teacher regarding the feasibility of implementing The Zones of Regulation® curriculum on a whole class level?*
3. *What, if any, improvements are perceived by students involved in the curriculum in the areas of self-awareness, knowledge, and application.*

Adult Participants data collection:

Teacher:

Pre-Post: Devereux-Mini (DESSA-mini) (LeBuffe, Ross, Fleming, & Naglieri, 2013)

Journal Entries- Before, During & After Intervention

Primary Investigator

Journal Entries-Before, During & After

Maintained a field notebook on feasibility of each aspect of study design & intervention sessions

Student participant data collection:

Child Occupational Self-Assessment Version 2.2 (COSA, 2014)⁵

Adapted Zones of Regulation Survey (2016)

Intervention

Fourteen 30-35 minute sessions completed over 2 months in 3 stages:

Stage 1: Zones Introduction (Self Awareness)

Stage 2: Learn Activities/Self-Regulation Strategies (Knowledge)

Stage 3: Putting Zones in Place (Application)

Feasibility:

Process Assessment:

- 82% participation rate of entire class
- Therapist & teacher collaborated for mutual schedule.
- Used 2 additional sessions for student data collection
- DESSA-Mini took teacher longer than expected to complete (2 hours total for pre/post)
- Journaling took an average of 10 minutes per session/25 minutes post journal questions

Results cont.

Resource Assessment:

Grant Funding

The Virginia Auty Nedved-Cook Endowed Student Research Award by Tufts OT Dept.

Boston University Educational Consortium Grant by BU School of Education

Provided funds for:

- Purchase of DESSA-MINI, COSA & Data Software
 - Purchase of self-regulation supplies & program materials
 - Meetings over the summer & throughout the year for planning/preparation
- Convenience Setting & Sample
 Supportive Administration & Colleagues
 Previous Relationship with cooperating teacher for the study

Management Assessment:

Primary investigator managed data collection, coding, & entry independently
 Additional time exploring data analysis software & meeting with expert librarian
 Feasibility may be improved in future study by having additional support either through personell or time allotted for primary investigator (e.g. sabbatical or additional grant funding)

Scientific Assessment:

Primary investigator had implemented The Zones of Regulation® in small groups therefor familiar with program & any potential risks
 No risk beyond what is normal in typical school day

Classroom teacher & Primary Investigator analyzed the physical tasks & provided less strenuous alternatives

DESSA-MINI

COSA Version. 2.2

Adapted Zones Survey

Journals

Field Notes



Quantitative Statistical Results						
	Pre-test		Post-test		p value	Cohn's D
Scores	X	(SD)	X	(SD)		
Summary Score Zones	62.83	(8.48)	67.67	(9.56)	0.02	.53
Summary Score DESSA-MINI	57.61	(9.61)	60.17	(8.59)	.07	.28
Summary Score COSA	50 (6.17)		47.94 (5.70)		.165	-.34

ES = Cohen's d ≥ .8 considered large effect size

•Results indicate that with a few changes to methodology study design & The Zones of Regulation® intervention may be feasible to replicate in a general education classroom as part of a Multi-Tiered System of Support.

•Results of The Zones Survey & DESSA-MINI indicated that intervention presented in current study was effective in this particular setting at the time of the study.

•The COSA was not found to be sensitive to change.

•As study's main purpose was to determine feasibility of implementing The Zones of Regulation® using a whole class approach results should be viewed with caution.

Limitations of Study

- Small sample size
- Zones Survey psychometric properties unstudied
- Possible Participatory Bias (Teacher & OT)
- Social Desirability of Self-Report Measures

Future Direction

- Repeat study with 7 lessons next year with same teacher
- Change methodology within sessions to include initial whole class mini-lesson followed by more time in small group within lesson
- Deliver same concept across 2 shorter sessions built into daily schedule (e.g. morning meeting)
- Allow at least 40 minutes for sessions exploring tools
- Repeat use of data collection methods
- Further analyze The Zones Survey to determine responsiveness, reliability, & validity & analyze change at item level
- Repeat use of the DESSA-Mini informing teacher of length of time required
- Consider elimination use of COSA from study design due to questionable fit with constructs being measured which will decrease burden on children, teacher, & investigator

1. Kuypers, L. (2011). The zones of regulation. *San Jose: Think Social Publishing.*

2. Executive Office of Education Multi-Tiered System of Support (MTSS) Blueprint found at: <http://www.mass.gov/edu/government/departments-and-boards/ese/programs/accountability/tools-and-resources/massachusetts-tiered-system-of-support/>

3. McQuaid, Adapted Zones Survey (2016). Unpublished. Original contributed by Plasch, K. to accompany L. Kuypers' The Zones of Regulation curriculum (2011) found as Zones Survey, (www.zonesofregulation.com "free share")

4. LeBuffe, P. A., Ross, K. M., Fleming, J. L., & Naglieri, J. A. (2013). The Devereux Suite: Assessing and promoting resilience in children ages 1 month to 14 years. In *Resilience in children, adolescents, and adults* (pp. 45-59). Springer New York.

5. Kramer, J., Velden, M., Kafkes, A., Basu, S., Federico, J., & Kielhofner, G., (2014). *User's Guide to Child Occupational Self Assessment (COSA) (Version 2.2)*. Model of Human Occupational Clearinghouse, Department of Occupational Therapy, College of Applied Health Sciences, University of Illinois at Chicago.

6. Tickle-Degnen, L. (2013). Nuts and bolts of conducting feasibility studies. *American Journal of Occupational Therapy*, 67, 171-176. <http://dx.doi.org/10.5014/ajot.2013.006270>