



Volume 1 *Summer 2016*

2016

Enhancing the Effects of Theatre of the Oppressed through Systems Thinking: Reflections on an Applied Workshop


Jennifer Luong

New York Department of Education, jl4293@nyu.edu

Ross Arnold

Stevens Institution of Technology, ross.arnold1@gmail.com

Follow this and additional works at: <https://scholarworks.uni.edu/ptoj>

 Part of the [Critical and Cultural Studies Commons](#), [Education Commons](#), and the [Theatre and Performance Studies Commons](#)

Let us know how access to this document benefits you

Copyright

Recommended Citation

Luong, Jennifer and Arnold, Ross (2016) "Enhancing the Effects of Theatre of the Oppressed through Systems Thinking: Reflections on an Applied Workshop," *Pedagogy and Theatre of the Oppressed Journal*: Vol. 1 , Article 8.

Available at: <https://scholarworks.uni.edu/ptoj/vol1/iss1/8>

This Article is brought to you for free and open access by the Journals at UNI ScholarWorks. It has been accepted for inclusion in Pedagogy and Theatre of the Oppressed Journal by an authorized editor of UNI ScholarWorks. For more information, please contact scholarworks@uni.edu.



Pedagogy and Theatre of the Oppressed Journal
Vol. 1, Issue 1 (Summer 2016)

Enhancing the Effects of Theatre of the Oppressed through Systems Thinking: Reflections on an Applied Workshop

Jennifer Luong¹ and Ross D. Arnold²

In this essay, we explore the idea that the use of Theatre of the Oppressed (TO) techniques in the quest for social justice, transformation, and liberation can be enhanced through application of a skill set called systems thinking. We facilitated a workshop at the 2015 Pedagogy and Theatre of the Oppressed conference in which we presented a brief introductory course in systems thinking, led guided practice using the method, and invited sharing and reflection about the fusion of systems thinking and TO. We explain the workshop in detail, discuss its impact on participants, and offer future directions for considering the important contributions of systems thinking to TO practice.

According to systems theory, phenomenon should not be studied in isolation, but rather through recognizing the common general features and connections that exist among multiple areas (Skyttner,

¹ Jennifer Luong is a graduate of NYU's master's program in Educational Theatre. She is a New York and New Jersey certified theater arts teacher who worked with children Pre-K to 5th grade in a public school in NY. In addition to public school teaching experience, she has also worked as a community educator in a women's crisis center. Currently, she is using theater arts techniques to teach English to public school students in Tokyo, Japan. She aspires to continue her education for her doctorate in Theatre Education in the near future. Jennifer may be contacted at jl4293@nyu.edu.

² Ross D. Arnold works for the United States Department of Defense as the Mission Command Chief Engineer for the U.S. Army Armament Research, Development and Engineering Center (ARDEC). He is a Ph.D. Candidate in Systems Engineering at Stevens Institute of Technology, where his research focuses on the application, measurement, and development of systems thinking skills across a wide variety of disciplines. Mr. Arnold also holds a Master of Science in Quantitative Software Engineering and a Bachelor of Science in Computer Science from Rutgers University. The author may be contacted at ross.arnold1@gmail.com.

2006). All systems, or forms of organization, have characteristics in common, and it is possible to make statements about these characteristics that are universally applicable (Bowler, 1981). First articulated by Ludwig von Bertalanffy (1969), systems theory allows us to effectively approach systemic problems (i.e., problems that involve multiple systems), even ones with which we are completely unfamiliar. This is considered taking a *systems approach* to problem-solving (Bertalanffy, 1969; Churchman, 1984). This powerful concept has been expanded upon to address a variety of scenarios, including organizational, economic, and political issues (Meadows, 2008; Senge, 1990; Senge, Kleiner, Roberts, Ross, & Smith, 1994).

Thinking about problems through systems theory (i.e., systems thinking) encourages individuals to understand and affect change across multiple systems (Boardman, Sauser, & Edson, 2009). It is commonly used to address complex, difficult, or ill-defined problems and has gained momentum across many fields such as politics, economics, and engineering over the last several decades (Arnold & Wade 2015).

Richmond (1994) defines systems thinking as the art and science of making reliable inferences about behavior by developing an increasingly deep understanding of underlying structure. Arnold and Wade (2015), in their review of definition of the term *systems thinking*, describe it as, “A set of synergistic analytic skills used to improve the capability of identifying and understanding systems, predicting their behaviors, and devising modifications to them in order to produce desired effects. These skills work together as a system” (p. 7). Generally, the systems thinking skill set is thought to include skills such as recognizing interconnections (Hopper & Stave, 2008), understanding system structure (Richmond, 1994; Ossimitz, 2000), understanding dynamic and emergent behavior (Ossimitz, 2000; Hopper & Stave, 2008; Plate, 2010), holistic thinking (Richmond, 1994; Ossimitz, 2000), and identifying and influencing key systemic leverage points (i.e., places in a system where small shifts can deliver large effects) (Meadows, 2008).

We argue that systems thinking can be an important skill to further Theatre of the Oppressed (TO) efforts that seek to change and improve legal and social systems. Systems thinking techniques match up

well with TO's goal of enacting social change and can be used to identify systemic issues within and between communities. TO practitioners can target systemic issues at leverage points to focus theatre techniques. Research that supports the use of systems thinking to enhance TO effects and improve TO techniques is likely to further the goals of TO in new and impactful ways.

To explore the potential in combining these two forms of thinking/activism, we developed a workshop to teach systems thinking skills at a PTO conference. In this essay, we describe the background of the workshop, how the idea originated, how the workshop was devised, how the workshop was conducted, and the results. We also discuss the details of the workshop and rationale for the techniques chosen. Finally, we present reflections and tentative conclusions from the workshop along with potential problems with the workshop and avenues of further research.

Research and Workshop Background

At the conclusion of the 2014 annual Pedagogy & Theatre of the Oppressed Conference, many participants gathered for a conference-wide reflection. After a number of reflective questions, I (Jennifer) listened as they voiced their frustration at the lack of change and impact in their communities. The discussion felt like it was getting more heated as they began to realize that the kind of revolutionary changes that Augusto Boal made around the time when he developed Theatre of the Oppressed (TO) are no longer made today. Many participants blamed "the system" while others stated that perhaps TO had become overused.

Upon returning from the conference, I reflected with Ross about the final discussion, and it prompted the two of us— Ross, an expert in systems thinking and engineering, and I, an expert in theatre and education—to begin exploring how to address issues of organizing for systemic change. Our conversations led us to envision how systems thinking could be a useful tool for facilitators who wished to achieve the clarity needed to be effective in creating change in their communities. We recognized that many facilitators might be inherently using some systems thinking skills to a certain extent in their work,

although they might not label their processes as such. In TO, Augusto Boal developed different theatrical forms that can be used to portray issues within systems with the purpose of creating change. Spectators are encouraged to become active participants to intervene and take dramatic actions to enact change in the scenes that represent issues within the community (Boal, 1985). TO not only empowers people within the community to take action, it also allows them to experiment with taking different actions to create a variety of changes in the system. Through our conversations about TO work, we felt that perhaps the missing link between the frustrations the facilitators experienced and creating the change that Boal once envisioned for TO techniques may lie in the conscious ability to use systems thinking skills.

While devising the workshop, we recognized that most participants would probably not be aware of systems thinking literature. Therefore, we put together a “crash course” in systems thinking. In this course, we defined systems thinking, identified specific toolsets applicable for TO practitioners, and provided examples on how those toolsets could be used. We then led the group in a case study that was taken from Prendergast and Saxton (2009) to work with participants in using the tools they had newly acquired. Lastly, we devised an activity in which the participants worked to identify systemic patterns in their own work environments, then worked in groups to discuss ways in which they could use their new toolset to tackle these patterns systemically.

We held the workshop at the 2015 Pedagogy and Theatre of the Oppressed Conference at Columbia College in Chicago, IL at 9:00 a.m. on June 14, 2015. The workshop was assigned a basic classroom equipped with a projector, while chairs and tables were pushed to the side. Sixteen conference attendees participated in the workshop. The conference attendees were individuals of various backgrounds including many members of university faculty, several practitioners, and a school teacher. All of the attendees had experience using Theatre of the Oppressed in their work in a variety of different ways.

The Workshop

The 90-minute workshop consisted of six time-constrained phases: 1) Warm-up, 2) Systems

Thinking Crash Course, 3) Guided Practice, 4) Group Work, 5) Sharing, and 6) Reflection and Questions. We explain the first four phases below. Overall, we wanted the workshop to help practitioners cultivate a sense of how to use a systems approach to examine communities and use TO tools to ignite change at the resulting systemic leverage points. We opened the workshop with a warm-up, followed by the crash course on systems thinking. We then asked participants to practice their systems thinking skills and TO expertise by discussing specific approaches, insights, and strategies to enhance their TO techniques with their peers. We posed several key questions during the workshop in order to guide idea generation, including: a) How can systems thinking be used as a lens to identify systemic issues in a community? b) How can TO practitioner's effectiveness be improved by targeting these issues? c) What issues have TO practitioners encountered that could be resolved through use of systems thinking? and d) What other applications might systems thinking have to TO?

Warm-Up

The theatre activity we used to warm up the group was adapted from Sweeney and Meadows (2010). The activity involved tossing a ball across a circle of participants while saying participants' names. We asked the participants to remember who they tossed the ball to, creating a patterned way of participating. After they solidified the pattern, the participants tossed the ball again to the same person they had the first time. In the next round, we challenged the group to recreate the pattern at a quicker speed while we timed the group. In the round after, we gave participants guidelines to bring the time down even further. The participants' criteria to lowering their time to finish the pattern: the pattern of tosses must remain the same, they must maximize time efficiency, and they can make one change to the activity (other than changing the pattern of the tosses). For example, one participant suggested that we rearrange our spots so that we would be standing next to the person we toss to, and then to pass the ball to the person next to them around the circle. This idea was attempted, and as a result the time was cut down to half to complete the pattern.

While engaged in this activity during the workshop, the participants quickly came to the conclusion that reordering themselves (changing positions) would be the most effective way to improve the group's time. The participants rearranged their positions within the circle (changed the group's "system structure") and passed the ball to each other around the circle. In systems theory, system structure is the way that the elements in a system are organized. This can be a physical, logical, or immaterial structure and is key to the behavior and output of the system (Richmond, 1994). Some of the participants were immediately able to make intuitive connections to systems thinking skills such as recognizing interconnections, understanding system structure, and changing structure to influence system behavior (Arnold & Wade, 2015).

This activity provided a strong base for the next part of the session. For example, while this ball-toss theatre activity is a common warm-up familiar to many facilitators, concern about the integrity of the activity's goal was raised. One participant expressed that reordering the spots resulted in a "less fun" game for participants. Ross acknowledged that a system's goal is in fact critical. If the goal of the activity were to increase the engagement of the activity, then a very different change to the system might yield that goal. As a result of this activity, participants cultivated an appreciation for the way that system structure influences behavior and the way that leverage points (such as the system's goal) also influence system behavior. The systemic twist to the activity as devised in the workshop provided an effective segue into the discussion of systems thinking and its potential role in TO.

Systems Thinking Crash Course

We designed the systems thinking crash course to introduce the concept of systems thinking to people completely unfamiliar with the topic. The application and practices of systems theory skills over can lead to a high level of systems literacy (Plate, 2010). However, due to time constraints, a full explication of the entire theory and its skills was not possible. Therefore, we designed the crash course to focus on specific concepts of systems thinking that fulfilled two criteria: 1) likelihood that a concept could be readily

applied to TO, and 2) ability to express the concept in fifteen minutes or less. We opened the course with an explanation of the Arnold and Wade (2015) systems thinking definition. We followed by explaining a set of key systems thinking skills, such as examining both the holistic view of the system and its details simultaneously, recognizing patterns, recognizing connections, and understanding feedback loops (i.e., circular chains of causation). The group discussed a variety of system examples, such as interpersonal relationships (social systems), oil rigs (technical systems), third-world poverty (economic system), and companies (organizational systems). We then explained how systemic thinking could be applied to TO techniques, focusing on using systems thinking to identify root causes of problems, optimize systemic behavior, gain insight into difficult problems, understand why things happen the way they do, and ultimately, enact lasting change.

Following this introduction, we, along with the participants, explored a series of key questions. Workshop participants provided their own perspectives and thoughts on each of these questions: 1) What causes some activities to succeed while others do not? 2) What are leverage points that can be addressed in order to enact the most impactful change? 3) How can we work the system(s) in our favor? The purpose of these questions was to guide participants towards the use of systemic and non-linear thinking as a way to identify and use leverage points to enact lasting change. The first question starts to develop this skill by asking attendees to draw connections between the systems encompassing two seemingly completely different activities as a way to develop systems thinking insight. As an example, two seemingly different activities may suffer from the same systemic issue—lack of a clear goal (Meadows, 2008). An un-systemic cause of a problem might be an assertion that the facilitation team was to blame for the failure of an activity (Senge, 1990; Senge et al., 1994).

Participants' perspectives on these questions varied greatly; factors such as motivation, resources, and individual leaders were among the most commonly expressed. In general, the participants' responses can be viewed as an indication that additional systemic insight would be helpful—factors such as individual

leaders are generally considered un-systemic, as leaders can often be replaced with little to no effect on the behavior of the system as a whole (Senge, 1990; Meadows, 2008). However, some participants did display systemic insight by speaking about factors such as training, audience psychology, and the ability of an audience to effect change based on socio-economic status.

Next, we asked participants to explore ways in that systems thinking might be an effective strategy for lasting change. Ross offered some examples of problems that often benefit from systems thinking, including: a) problems that “just aren’t going away,” b) multiple fixes tried but “nothing seems to be working,” c) patterns of problems seen in multiple areas, d) frustration: “Why can’t I fix this?” and e) other complex or ill-defined problems. Ross then presented an example of a common systemic issue in many social systems—the concept of *blame*. Blame was analyzed as directly (linearly) assigning responsibility to a single cause, which may ignore other important factors. He applied systems thinking skills to explain that direct blame of an individual has a tendency to mask systemic issues within a system such as a relationship or organization. Ross then presented the participants with the following blame scenario, along with instructions: “You are a mid-level manager for a fictitious media company called Interactive Media. Your boss is blaming one of your employees for poor performance over the past quarter. Turn and talk to your neighbors about what could be the causes of the poor performance.” The participants discussed this question and came up with a variety of answers. The more common answers tended to place either the employee or management as the root cause: 1) employee shortcomings such as laziness, lack of ability, or lack of training; 2) poor leadership; and 3) poor guidance. Reasons and rationale were presented, and we discussed the ideas generated by the participants. Specifically, we built upon the participants’ ideas, replacing individual blame from each of the ideas with a different line of thinking that placed the fictitious Interactive Media company “system” itself as the root cause. For employee shortcomings, laziness could be reframed by the company lacking appropriate compensation or incentive structure. Lack of ability could be reframed as the company’s potential lack of an adequate hiring strategy. Lack of training could be reframed

as the company not providing appropriate training to employees. For poor leadership, the company may lack an effective leadership structure. For poor guidance, the company may not have provided well-defined roles and responsibilities to the employee.

Following this activity, Ross outlined specific leverage points that would likely be applicable to TO techniques and provided examples of these points. Some of the leverage points included a) goals, such as the purpose of the system and the people in it; b) rules, such as incentives, punishments, and constraints; c) information flows, such as who has access to what information; d) delays, such as the lengths of time relative to rates of change; and system structure, such as connections and feedback loops. Following the discussion on leverage points, the crash course concluded with Jennifer asking for any final thoughts or questions from the participants. Although designed to take no longer than 15 minutes, in practice the course took more than 45 minutes to complete. This is an area that could be addressed in further iterations of the workshop.

Guided Practice

In the guided practice section of the workshop, Jennifer led participants through a case study taken from Prendergast and Saxton (2009) about a forum theatre project in a college campus. In the case study, students at a college campus created a forum theatre piece and underwent a two-week process of workshopping, rehearsing, and performance. We recorded a list of conclusions from the performances they drew from spec-actors, audience members, and the jokers (see Appendix A for the list). This list was distributed for participants to analyze. After a brief discussion of the list using the systems thinking lens, many participants were able to identify the ways in which the session did not address the issue at the systemic level. For example, based on the list of responses listed, the participants expressed that there was no evidence that students in the case study identified the root cause of the harassment on their campus such as how rape culture facilitates victim blaming.

This particular case study was chosen due to our experience; Jennifer previously worked as a

community educator in a women's crisis center addressing community education projects on power-based relationships. While the case study was dated to 1995 in a college in Vancouver, Canada, these issues remain highly relevant today. We also chose this topic due to its relevance to TO—it is common for forum theatre to be used as a technique to explore power-based relationships and the oppressed nature of survivors in such relationships. The case study contained analyses of responses and a description of the way in which the forum theatre workshop unfolded, but it did not state connections between the systemic aspects of the issues at hand. When this was brought up in the workshop, many participants made connections to their own experiences working on college campuses and to the systemic issues that perpetuated and hindered the changes they intend to create. For example, participants expressed the “bureaucratic nature” of offering changes in processes. Because we were on the topic of sexual assault on campus, participants expressed the awareness that prevention programs are not working, but the process of getting changes made to programs are inefficient and oftentimes results in rejection.

Group Work

We distributed colored index cards at the beginning of the group work. During this part of the workshop, we asked each participant to reflect and identify one common problem trend encountered in their work. We then grouped participants by the color of their index cards and asked them to share their trends with their groups. From their pools of common trends, each group chose one to discuss and work on for the duration of this part of the workshop. From there, each group identified a leverage point to address and brainstormed ways in which the change resulting from the leverage point could affect the system as a whole. Points/patterns identified included: 1) people who come see the performances are already those who care about the cause, 2) differences in goals between administration and professors/teachers, and 3) rules and lack of reinforcing the awareness or change on a college campus.

Workshop Feedback

We devised a survey (see Appendix B) for the participants in order to gather basic data and further

improve the workshop. Of the 10 people who took the survey, three claimed prior knowledge of systems thinking. Specifically, their prior knowledge came from workshops; books, articles, teaching, and community knowledge; and inherent practice (“I didn’t necessarily realize that this is what I was doing, but I utilize this philosophy and these skills daily”).

The majority of participants stated that they found the information on systems thinking useful and found the warm up as a segue into the discussions that followed to be extremely effective. Based on the feedback of the participants, many would like more uses of theatrical games and activities as ways to discuss and break down systemic issues metaphorically. Examples included “First game woke me up to this way of thinking” and “Working on our feet and using game as metaphor.”

Participant feedback indicated that time may have been better spent exploring more solutions to the most commonly described obstacles rather than discussing the issues themselves. The discussion of issues took up a great deal of time and the focus occasionally shifted from the application of systems thinking skills. However, the group was still able to explore a number of obstacles systemically and uncover new and insightful ways to approach these obstacles. Example responses included “Focus on how to actually use systems thinking in applied ways in TO,” “More activities and visuals,” and “Control time for discussion of each section because TO folks will talk forever.” Although eight out of 10 participants responded that they liked the structure of the workshop, two provided feedback on using more activities and using practice to dissect the material. One participant wrote, “Less lecture/slideshow. More activities/games as a means to explore how this theory connects to our work.”

Most of the feedback received from the participants was positive: many indicated they had obtained a new lens to approach their work and expressed their intentions of implementing systems thinking as a way of seeing a holistic view of a system, using leverage points to create change. Participants noted they benefited from “systems thinking around children’s stories, and with teachers,” “The leverage points and just trying to use the systems thinking method,” and “looking at the bigger system and how to

systematically affect change.” Thus, in a broad sense, we consider this a success.

Reflection on the Workshop

Based on subjective assessment, the ideas and issues raised by class during the workshop were largely systemic in nature. After the crash course, participants did demonstrate a willingness and ability to apply a basic level of systems thinking to different systemic problems. Specific systems thinking skills used by participants included seeing the system holistically, recognizing non-obvious connections, and understanding the power of information flows (i.e., who has access to what information and how this affects system behavior). Many of the participants indicated that they left the workshop with additional insight and new ideas to improve their effect on a community as facilitators using TO techniques. The most useful systems thinking skill as expressed by the workshop participants was the ability to think holistically: the expansion of viewpoint to encompass a larger picture and the appreciation of the effects of outside systems and inputs on TO efforts. Other systems thinking concepts may need more focused explanation, or may simply be too complex to tackle in such a short crash course.

Multiple participants expressed a desire to further examine areas of potential TO enhancement using systems thinking after the workshop. We felt that the general consensus among participants was that the workshop was not long enough. This can be considered both positive and negative: positive that the workshop held the interest of the participants and furthered their desire to apply systems thinking skills, but negative in that the design of the workshop was not suited to the 90-minute allotment.

While applying systems thinking analysis to obstacles that the participants had encountered in their work, several common themes came to light. First, in situations with an oppressor and the oppressed, several of the participants noted that the oppressor was also often oppressed in some way. Second, participants noted that the idea of minimizing blame may not hold oppressors accountable for their acts towards the oppressed. However, examining a situation in a way that avoids blame is still a useful technique that can be used to allow the facilitator to see a wider view of an issue. Third, training was noted

as another common obstacle encountered during TO work; in many cases, participants stated that there was difficulty in matching up the right instructors with the right students. For example, students already well-versed in a particular social issue might receive the training in the same issue, or new students unfamiliar with an issue might receive training from an instructor who lacked relevant knowledge in the problem area. Fourth, buy-in from an organization's administration was another common obstacle encountered by several TO practitioners.

Based on observations during the guided practice, group work, sharing phases, and feedback provided via the survey after the workshop, we tentatively assert that systems thinking is a skill set that can be applied to enhance the application of TO techniques. It is likely that systems thinking could play an even greater role in the improvement of the TO movement at large and in helping TO practitioners focus their efforts to achieve a higher level of efficiency in their practices.

Future Directions for Teaching and Scholarship

One key area that we feel could provide immediate benefit to TO practitioners is to attend more extensive systems thinking training or professional development courses. Such courses are now being offered by some universities at the graduate level typically as semester-long three-credit classes (and sometimes as two-week seminars). Stevens Institute of Technology in Hoboken, NJ is one such university offering a graduate-level systems thinking class. These classes are also offered as seminars or workshops at various institutions such as the [Waters Foundation](#). These classes offer a much fuller systems thinking experience than the short crash course included in our workshop. Books such as *Systems Thinking: A Primer* by Donella Meadows also offer a deeper foray into the systems thinking arena. We feel it is very likely that these types of learning activities would benefit to TO practitioners.

Specific to the fusion of Systems Thinking and TO, we feel that possible future research could first include devising innovative theatre forms or reinventing current TO forms to represent issues on a systemic level. When Boal used TO techniques, it helped to reveal issues that were not commonly discussed. Now,

communication methods are so widespread that new trends are different than those in Boal's times. Respectively, Boal's techniques could be reimagined in a modern context in order to be effective with today's vastly improved communication flows. Also, new theatre forms could be devised in order to tackle trends that we see now. These new theatre forms would need to address each system in different ways based on the trends that are applicable in modern times.

Another direction could include devising possible ways in which spec-actors in a forum theatre piece can explore changes in a more holistic and systemic way. Currently, forum theatre seems to be the TO form of choice to use in tackling problems. It provides a great structure that facilitators may adapt and utilize to explore different perspectives, allowing a community of viewers to make changes. However, the forum theatre pieces that we have participated in often tackle issues on a surface level, lacking a big picture view. Whether this issue is caused by inadequate facilitation or a need to present a more holistic and systemic scenario seems to depend on the performance. If further development can improve these workshops, we believe the TO facilitators can help create bigger changes in their communities.

We envision formal, long term research to include case studies of the implementation of the new TO forms and how they use leverage points to make changes on a systemic level. This will involve tracking how systems change over periods of time based on initial TO efforts. The scale to which the changes occur and subsequently the amount of time over which the changes occur will help to inform practitioners of what to expect and how to tailor efforts. To be effective at this type of research, researchers will need to decide what to include in each system (define the system's boundaries) in order to enact effective change and then track them over the long term.

We feel that possible research could also endeavor to measure the effectiveness of systems thinking education, such as the short crash course in our workshop. If we take the stance that improved systems thinking skills will help to improve TO, we need a way to ensure that our workshops and seminars are in fact improving systems thinking skills. This has not been done yet as there are currently no

commonly accepted means by which to measure systems thinking ability (Arnold & Wade, 2015); these methods are now currently under development in other research.

References

- Arnold, R. D., & Wade, J. P. (2015). A definition of systems thinking: A systems approach. *Procedia Computer Science*, 44, 669-678. <http://doi.org/10.1016/j.procs.2015.03.050>
- Boal, A. (1985). *Theatre of the oppressed*. (C. A. McBride & M. L. McBride, Trans.). New York, NY: Theatre Communications Group. (Original work published 1974)
- Boardman, J., Sauser, B., John, L., & Edson, R. (2009). *The conceptagon: A framework for systems thinking and systems practice*. IEEE International Conference on Systems, Man, and Cybernetics (pp. 3299–3304). San Antonio, TX.
- Bowler, D. (1981). *General systems thinking*. New York, NY: North Holland.
- Churchman, C. W. (1984). *The Systems Approach*. New York, NY: Delacorte.
- Hopper, M., & Stave, K. A. (2008). *Assessing the effectiveness of systems thinking interventions in the classroom*. Session presented at the 26th International Conference of the System Dynamics Society, Athens, Greece.
- Meadows, D. H. (2008). *Thinking in systems: A primer*. White River Junction, VT: Chelsea Green.
- Ossimitz, G. (2000). *Teaching system dynamics and systems thinking in Austria and Germany*. Session presented at the 18th International Conference of the System Dynamics Society. Bergen, Norway.
- Plate, R. (2010). Assessing individuals' understanding of nonlinear causal structures in complex systems. *System Dynamics Review*, 26(1), 19–33. <http://doi.org/10.1002/sdr.432>
- Prendergast, M., & Saxton, J. (2009). *Applied theatre international case studies and challenges for practice*. Chicago, IL: Intellect.
- Richmond, B. (1994). *Systems dynamics/systems thinking: Let's just get on with it*. Session presented at

the International Systems Dynamics Conference. Sterling, Scotland.

Senge, P. (1990). *The fifth discipline, the art and practice of the learning organization*. New York, NY: Doubleday/Currency.

Senge, P. M., Kleiner, A., Roberts, C., Ross, R. B., & Smith, B. J. (1994). *The fifth discipline fieldbook: Strategies and tools for building a learning organization*. New York, NY: Doubleday/Currency.

Skyttner, L. (2006). *General systems theory: Problems, perspective, practice*. Hackensack, NJ: World Scientific Publishing.

Sweeney, L. B, and Meadows, D. (2010). *The Systems thinking playbook: Exercises to stretch and build learning and systems thinking capabilities*. White River Junction, VT: Chelsea Green. (Original work published 1995)

von Bertalanffy, L. (1969), *General system theory*. New York, NY: George Braziller.

Appendix A: Handout

Enhancing the Effects of Theatre of the Oppressed Techniques Using Systems Thinking

2015 Pedagogy and Theatre of the Oppressed Conference

Jennifer Luong and Ross Arnold

Handout

Case study - List of considerations:

- So we can learn that by expressing your opinions right from the start then you can sort of maybe get a better perspective on what's really going on.
- I think we're seeing a lot of people stand up for themselves.
- So I guess what we learn from your intervention is that we can't - we shouldn't always follow our friends or give in to peer pressure. We sometimes have to go with how we feel.
- So in effect by being very conscious and open about your consciousness you can... educate people around you and... get out of situations that you don't want to be in.
- By hitting things at a very human level instead of a "man versus woman" nonsense level... just cutting right under it, caring... you managed to open things up and stop the nonsense.
- By insisting on your space and... really being honest about what it is that you're comfortable with, you can avoid conflict and that's something that everybody needs to do in their life.

Leverage Points:

- Goals
 - Purpose of the system and the goals of the people in it. What is the purpose of the TO "system?" What about the people who attend TO events?
- Rules
 - Incentives, punishments, and constraints. What rules might we be able to change or enforce? What incentives could be offered? Make sure to consider systemic effects of these incentives - incentives are often directed towards rewarding behavior that seems correct but is in fact harmful. Are any of these incentives in place?
- Information flows
 - Who has access to what info. Are the right people getting the right information? Think out of the box.
- Delays - lengths of time relative to rate of change
 - Minimize "knee-jerk" reactions. Often it takes time for things to change - rapid reactions to incomplete information can cause oscillations. For example, how long after TO techniques are applied to a community might it take to see change? When should effects be measured? How often?
- Connections
 - What can we change about the way the system is structured? What kinds of indirect, unintuitive, or non-linear connections might be affecting the system?
- Stocks and flows
 - Can we increase or decrease any key stocks? Such as emotional investment, or the max number of people supported by an event?
- Feedback loops
 - What feedback loops are currently affecting the parts of the system we care about? If a technique isn't working, is it possible that a balancing feedback loop is at play? For example, maybe the more people we reach, the less each person cares because he/she feels absolved of responsibility. Is there a way to fix that? Or a different approach?

Appendix B: Post-Workshop Survey

Enhancing the Effects of Theatre of the Oppressed Techniques Using Systems Thinking
2015 Pedagogy and Theatre of the Oppressed Conference
Jennifer Luong and Ross Arnold
Workshop Survey

1. How would you rate this overall workshop? (10 being the highest) Please circle:

1 2 3 4 5 6 7 8 9 10

2. Did you have any experience with Systems Thinking prior to this workshop? Please circle: Yes
No

If yes, where does this experience come from (classes, books, conferences, work experience, etc.)?

3. What did you find the most useful?

4. What are possible ways to improve this workshop for future sessions?

5. What are your thoughts about the structure of this workshop?

6. What tool(s) do you see yourself using after this workshop?
