

# Challenging Organisations and Society

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## **Elaborating the Theory – Practice Space: Professional Competence in Science, Therapy, Consulting and Education**

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*Matthijs Koopmans*

## **Large-Scale Studies and Their Impact on Theory and Professional Practice**

### **Abstract**

In this paper I will briefly discuss the rationale and benefits of large-scale experimental studies and their use to inform effective practice. The supporting argument is in part statistical: drawing a larger sample of observations permits stronger inferences about the population of interest. In part, the argument is pragmatic: obtaining findings with broad applicability creates efficiencies in the interface between theory and practice. The drawbacks of large-scale studies are discussed less often than the benefits in the policy literature, and they are the focus of this paper. Disadvantages include significant information loss in the aggregation process that produces group averages, particularly about the causal effects that may differ from one individual, classroom, or school building to another. While I acknowledge that there is a lot to learn from large-scale empirical studies about the effectiveness of educational interventions, I will make a case in this presentation for a greater focus in educational research on the particularities of the individual case to better understand the underlying dynamics of the systemic changes that are usually retroactively inferred from experimental results. Understanding the dynamics behind these changes may better inform theory as well as qualify the results of large-scale experimental studies.

### **1. Introduction**

Why do we need large-scale studies in education? Educators enhance their effectiveness by knowing which approaches can improve educational outcomes under which circumstances. Sometimes such knowledge is local and particular to the unique individuals and to unique situations in which educators find themselves, such as their classrooms or school buildings. In other instances, our knowledge about what works in education is global. Using

pedagogical approaches with proven effectiveness is likely to result in better educational outcomes under many different circumstances and the knowledge about effective practices helpfully informs decision making in the field. We need large-scale studies in education to establish this kind of knowledge, because it can be generalized beyond the particularities of the settings and has utility across the board. We also need studies that allow for valid conclusions about cause and effect, a requirement that encourages the use of experimental designs to study the impact of educational interventions.

The argument for large-scale studies is in part a statistical one. The generalization of findings from the behavior of an observed sample assumes representativeness of sample characteristics for the population to which the findings of the study are said to pertain, and if a sample is small, incidental characteristics of individual actors hold too much sway over the results of the sample as a whole, thus leading to a biased description of the population. The distribution of outcomes found in a sample will more reliably estimate their distribution in the population as the sample is larger (Kerlinger, 1970) and enable the formulation of better hypotheses for subsequent studies (Gelman *et al.*, 2013).

In the past, I have been involved as a contractor in two large-scale experimental studies, both focusing on the elementary and middle school grades. One study, ongoing as of this writing, aims to investigate the impact of a vocabulary development initiative on reading comprehension. The second study focused on the effectiveness of an innovative math, science and technology curriculum in the state of Alabama (Newman *et al.*, 2014). My true interest as a scholar, however, is the applicability of dynamical systems theory to cause and effect in education (Koopmans, 2014a; 2014b). The disparity of these two perspectives forms the basis for this article.

## **2. The Theory-Practice-Policy Space in the United States**

With regards to the place of large-scale studies in the theory-practice-policy space in education, the year 2002 saw three important and interrelated

developments in the United States. The first one was the passage of the No Child Left Behind (NCLB) act, a highly influential piece of educational legislation that was passed by U.S. Congress in January of that year, and that has continued to dominate the educational policy debate for more than a decade afterward. The passage of NCLB advanced a trend toward greater involvement of the Federal Government in issues of education and schooling that were historically handled locally in the US (Vinovskis, 2009). NCLB imposed the following requirements on the educational system: 1. The formulation of state standards and the conduct of regular standardized achievement testing; 2. Measurement of 'adequate yearly progress' of schools against pre-set benchmarks; 3. School choice to be provided to students served by schools who repeatedly fail to make adequate yearly progress; 4. Minimum professional qualifications for teachers and paraprofessionals; and 5. Use of scientifically based research to inform practice (Vinovskis, 2009). This article focuses on the latter provision.

The second important event was the publication of a highly influential report by the Committee on Scientific Principles for Education Research (National Research Council, 2002), which formulates a set of methodological desiderata for sound scientific research in education. One of these desired characteristics is the use of experimental studies whenever feasible, because it provides the strongest basis for making causal inferences about the effectiveness of educational interventions. The random assignment of students, classrooms or schools to treatment or control conditions rules out the influence of selection factors, i.e., initial differences between the groups that are compared, hence the designation randomized control trial (RCT) study. Comparability may be an issue, for instance, if students get assigned to a new intervention based on their interest while those students who do not display this interest are placed in a comparison group. In this case, higher interest confounds the comparisons of educational outcomes based on treatment conditions thereby undermining the inference of causality. Furthermore, to avoid contamination as treatment conditions spill over from treatment to comparison groups, a cluster-based design is usually recommended in the

experimental context, such that classrooms or schools rather than individual students are placed in different treatment conditions (Murray, 1998).

The third event was the establishment of the *What Works Clearinghouse*<sup>TM</sup> (WWC), a continuously expanding repository of scientifically validated studies, administered by the National Center for Education Evaluation under auspices of the U. S. Department of Education. The repository can be used as a resource for practitioners to identify educational interventions with proven educational effectiveness. Using a set of established methodological criteria to determine internal validity, the WWC reviews existing intervention research in education to determine whether the quality of the evidence permits the causal attribution of outcomes to the intervention studied. These reviews serve as a resource to practitioners and policy makers deciding on effective educational intervention strategies.

### **3. Experimental Studies in Education**

While there has been great initial reluctance in the field of education to embark on randomized control studies for ethical, cultural and logistic reasons (Cook, 2002), the long-term benefit of reaching sound conclusions about the effectiveness of educational interventions has increasingly prevailed in this debate, a prevalence that has been further aided by the explicit privilege assigned to RCT designs in the funding priorities of the Institute of Education Sciences, the arm of the U. S. Department of Education that is by far the largest funder of educational research in this country. Researchers have also found creative ways of circumventing some of the ethical concerns that come with the implementation of RCT designs. In the aforementioned Alabama study, both experimental and control schools received the intervention, but the timing of the intervention was delayed in the control schools thus providing an opportunity for comparison between the two treatment modalities in the time window where treatment conditions were different (Newman *et al.*, 2012).

An illustrative example of the effectiveness of the experimental approach to educational research is the Tennessee study on the effects of class size (Achilles, 1999; Krueger & Whitmore, 2001; Mosteller, 1995; National Research Council, 2002), which, based on a random assignment of schools to small, medium and large class size conditions was able to show improved student achievement outcomes in the smaller classes. This study, which has been replicated many times (Biddle & Berliner, 2002), illustrates that there is much to learn from large-scale studies, because of the widespread implications of an effective demonstration of causality.

However, the elevation of the large-scale randomized control trial designs to the 'gold standard' in educational policy research (e.g., Murnane & Willett, 2011) leaves some important issues in the determination of cause and effect unattended. Among the most important challenges are the following:

### **3.1 The complexity of educational interventions**

Causal inference in experimental designs presumes that treatment is a strictly categorical feature underlying the comparison of outcomes, such that being in a treatment or comparison condition is an 'either/or' proposition. However, interventions in education often have many features that are extremely difficult to disentangle and uniformly control at the design level, and as a result, these features create potential for contamination between treatment conditions, compromising the efficacy of the comparisons. Examples of such influences are differential resource allocation to treatment and comparison conditions, pedagogical features shared by treatment modalities (e.g., collaborative learning situations, effective teacher-student interaction), variations in teacher responsiveness to professional development in either condition, effective instructional leadership and the effects of tracking of implementation activities and outcome measurements (Koopmans, 2014a). Class size reduction, for instance, encompasses an array of pedagogical features, such as increased availability of support of individual students, more opportunities for differentiated instruction, potentially greater responsiveness

to students' academic and non-academic needs and a more effective use of physical classroom space (Bascia & Faubert, 2012; Mayer, 2010). Additionally, there are unintended side-effects, such as the greater focus in smaller classrooms on content in the higher grades that Bascia and Faubert (2012) found in Ontario's secondary schools. If research indicates that reducing class size is effective, which one of these features in particular contributes to this result? The establishment of mean differences between treatment groups would not answer this question.

### **3.2 The need to understand the dynamics underlying change**

The dynamical systems literature offers a wide variety of transformative scenarios whose applicability to successful experimental demonstrations remains to be determined. When average educational outcomes improve after intervention, we infer that a change for the better has taken place as a result of the intervention, and we may invoke a theory that would have predicted these changes. However, if we do not actually study the transformation processes in great detail, we know little about the dynamical underpinnings of such changes, leaving in the open, for example, such crucial questions as whether the changes reflect a systemic transformation or in effect reinforce existing constellations. Differentiating those two change scenarios is important with an eye toward sustainability of the initiative under study. Since the establishment of a relationship between interventions and outcomes is not as straightforward as the randomized experiment in its optimal form appears to indicate, we need to empirically study the processes of transformation underlying (successful) outcomes, rather than inferring those transformations retroactively (Koopmans, 2014a; Maxwell, 2004). For instance, the aforementioned Alabama study described an implementation that relies heavily on the creation of collaborative learning situations and discovery learning among students. The extent to which these particular features facilitate the spread of higher-level understanding within and across classrooms is an empirical question that goes beyond what this RCT study was designed to answer.



### **3.3 The inherent particularity of the instructional process**

In the end, outcomes in education are produced in individual classrooms in which particular teachers convey particular content to particular students in particular settings (Passmore, 1980). The specificity of classroom processes calls into question the regular nature of causal processes that is assumed in large-scale experimental studies i.e., the notion that observing a regularity in the relationship between variables implies an underlying mechanism that applies to a majority of individual cases (Maxwell, 2004). From the establishment of a causal model based on a relationship between predictors and outcomes at the group level, it does not necessarily follow that the behavior of individuals within a given sample conforms to a single causal mechanism. It remains to be decided, then, to what extent findings about cause and effect carry over from individual to individual or from classroom to classroom without considering this situational uniqueness. In the experimental literature, this issue is referred to as external validity, the applicability of findings across settings (Murnane & Willett, 2011; Murray, 1998).

### **4. The Merits of Single Case Designs**

To address the concerns outlined above, there needs to be an inventory of all variables that are incorporated into a comparison between treatment conditions, i.e., those variables associated specifically with the treatment, as well as a description of the dynamics of transformation resulting in treatment effects. It is quite possible to address the three concerns outlined above within an experimental framework. For example, a more qualitatively oriented implementation study can be tacked on to an experimental study to document the implementation story in greater detail. Those descriptive results can then be utilized to modify and strengthen the intervention over time. Addressing these concerns by themselves does not necessitate a fully realized randomized control study, nor may the experimental framework be the most suitable vehicle to uncover the dynamical aspects of the intervention. To examine the complexity of the dynamical interrelationships involved, and register the transformative processes underlying treatment

effects, the field would particularly benefit, in my opinion, from a more intensive use of single case designs, which concern themselves primarily with the investigation of the mechanisms underlying cause and effect. For example, such studies could be used to conduct detailed observations of the learning trajectories of individual students, or interactive processes in a single classroom over the course of a longer period to describe the processes that generate cause and effect relationships in those particular instances.

Neither the NRC Report nor WWC mandates, at the expense of all else, the use of randomized experimental designs to address cause and effect in education, as both sources acknowledge that single case designs have their place in the pantheon of research methodologies that enable causal inference, provided that the effect of deliberately induced interventions are measured. Rather than comparing a large number of units (people, classrooms, school buildings) under different treatment conditions, single case research measures behavior within a single unit, but conducts these measurements on a large number of repeated occasions such that the change is observed in great detail over a wider time span. In fact, the most recent practical handbook published by What Works Clearinghouse<sup>TM</sup> (2014) includes a set of pilot standards for the review of single case research, and their data repository includes several studies utilizing this design successfully (e.g., Beard & Sugai, 2004; Gierut, 1990; Neef, Shade, & Miller, 2004). Per tradition, these designs specifically describe changes in terms of the baseline conditions of the system. These studies are educational experiments in the sense that there is a deliberate manipulation of the learning environment and a measurement of its effects, and they share with RCT that their primary concern is a comparison of treatment to non-treatment conditions. However, contrary to RCT, these conditions are measured within the same subject.

There are also examples of single case design studies that offer detailed assessments of the dynamical processes underlying change in education, such as, for instance, Bassano and van Geert's (2007) study of the processes underlying the development of sentence production in two individual children during the second and third years of their lives (Bassano & van

Geert, 2007), or my own work on the patterns of long-term stability of high school attendance in individual urban schools (Koopmans, 2015). However, these latter two studies do not manipulate the environment and measure the impact of those manipulations, but rather, they are informative in their description of baseline developmental processes of stability and spontaneous transformation that ultimately may or may not be the backdrop for intervention research.

In our school reform efforts, new instructional initiatives and curricula tend to be externally imposed on schools and districts, and the use of the results of RCT studies to guide effective practice reinforces this trend, as the question what works is typically based on data that are collected by other people in other school buildings. The single case approach, with or without experimental manipulation, provides a means to reverse this trend by investigating effective practices within particular classrooms and emulating such practices elsewhere in the same school building. This approach has the potential for reforming schools from within and from the bottom up, rather than from the outside and from the top down.

### **5. A Proposal for the Betterment of the Theory-Practice-Policy Space**

There is no question that the added rigor that comes with the large-scale implementation of RCT designs to measure educational effectiveness has had a beneficial impact on practice, as evidence-based knowledge about what works becomes readily available to practitioners and policy makers. This availability facilitates a more well-informed choice of curriculum and instructional choices that can, in turn, be specifically tailored to the target populations on which the impact of effective interventions was actually measured. Furthermore, the extensive use of RCT makes it possible to strengthen our theories about educational effectiveness, such as for instance a theory that says that the increased individual attention that is possible if classes are smaller creates opportunities for teachers to better support the learning of their students (Biddle & Berliner, 2002).

Communication in the theory-practice-policy space could be further improved if a larger repository of single case studies were available, reporting high quality research that provides granular descriptions of educational processes that are of interest because of their particularity. These studies could be either ethnographic or quantitative, and they could describe either experiments or instructional processes without a deliberate control over the treatment conditions. Such a clearinghouse would allow for the identification and articulation of the causal processes that make certain approaches work in particular instances, and it would facilitate the dissemination of promising practices through the educational system in a bottom-up fashion. Additionally, findings from such a repository could be used to build theories about how educational transformation works, which could then in turn be empirically tested. The systematic availability of such information would strengthen the foundations of our RCT work, as well as providing the justifications we need for the articulation of school and policy reform in education, based on our experiment findings.

A clearinghouse for rigorous single case studies would also strengthen the vision about research and policy articulated in NCLB by broadening the definition of 'scientifically based', as well as help restore the balance between the search for general principles and the interpretation of particular instances that was seriously unhinged by the way the NRC report has generally been received in the educational community as a mandate to conduct RCT studies. Perhaps it will also inspire us to find school accountability models that are more responsive to the particularities of the contexts in which education takes place, rather than removing those particularities in service of the aggregation of results across settings for generalization purposes.

## **6. Reflection**

In the policy arena, there is a tendency to view research as a means to support existing viewpoints rather than to seek innovations and improve practice. In the field of economics, for instance, the limits of scholarship on policy

are illustrated by the lack of impact of Keynesian economics on the policy response to the 2007 recession (Blinder, 2014). In education, the pursuit of rigor when confirming the effectiveness of our practices does not necessarily translate into policies informed by the results of those rigorous studies. A telling example is that while the Tennessee class size study described above provided compelling evidence of the benefits of the intervention, the Tennessee legislature decided not to reduce class size based on cost considerations (National Research Council, 2002; Ritter & Boruch, 1999).

Nor are large-scale experimental studies always as conclusive as we want them to be. In the aforementioned study on the math, science and technology initiative in Alabama, a statistically significant difference was found in favor of the treatment condition in student math achievement after one year - not so in science achievement, but given the small size of the difference, the implications for practice are not entirely clear (Newman *et al.*, 2012), and therefore, the study does not provide unequivocal support for the intervention strategy. As designed, the study also does not distinguish the specific components of the intervention (availability of manipulatives, creation of collaborative learning situations, infusion of financial resources for treatment, targeted professional development) that may have had differential impact on those outcomes.

Small-scale studies have important knowledge to add to the research-practice-policy space. If conducted experimentally, they can be used to demonstrate effects based on detailed measurements of behavior. Furthermore, the high degree of detail at which data can be collected if only one person, classroom or school is involved allows for the investigation of cause and effect at a high degree of resolution, thus making it possible to understand the details how behavioral transformation occurs under the circumstances observed.

In the end, I believe that truly understanding the causal processes underlying successful educational interventions requires attention to such details, telling us how individuals and their systemic surroundings mutually affect each other, as well as what the antecedents and consequences are of the

transformations that constitute successful learning and school reform. We need to use that knowledge to inform the development of intervention strategies whose effectiveness will ultimately be addressed through large-scale studies. We may be able to explore the underlying processes through which learning is enhanced if classrooms are smaller. This knowledge may ultimately help us better explain the success or failure of randomized experiments to demonstrate effective practices and enable more informed choices about potentially effective approaches, as well as strengthen the basis on which we bring effective practices up to scale. It may also satisfy the curiosity of those who take a strictly scientific view of the educational process by seeking knowledge for its own sake about how change works in education.

## References

- Achilles, C. (1999). *Let's put the kids first finally: Getting class size right*. Thousand Oaks: Corwin Press.
- Bascia, N., & Faubert, B. (2012). Primary class size reduction: How policy space, physical space, and spatiality help shape what happens in real schools. *Leadership and Policy in Schools*, 11, 344-364.
- Bassano, D., & van Geert, P. (2007). Modeling continuity and discontinuity in utterance length: A quantitative approach to changes, transitions and intra-individual variability in early grammatical development. *Developmental Science*, 10, 588-612.
- Beard, K. Y., & Sugai, G. (2004). First Step to Success: An early intervention for elementary children at risk for antisocial behavior. *Behavioral Disorders*, 29, 396-409.
- Biddle, B. J., & Berliner, D. C. (2002). Small class size and its effects. *Educational Leadership*, 59, 12-23.
- Blinder, A. S. (2014). What is the matter with economics? *New York Review of Books*, LXI (20), 55-57.
- Cook, T. (2002). Randomized experiments in education: A critical examination of the reasons the educational evaluation community has offered for not doing them. *Educational Evaluation and Policy Analysis*, 24, 175-199.
- Gelman, A., Carlin, J. B., Stern, H. S., Dunson, D. B., Vehtari, A., & Rubin, D. B. (2014). *Bayesian data analysis* (3<sup>rd</sup> Edition). Boca Raton, FL: Taylor & Francis/CRC Press.

- Gierut, J. A. (1990). Differential learning of phonological oppositions. *Journal of Speech and Hearing Research*, 33, 540-549
- Kerlinger, F. N. (1970). *Foundations of behavioral research* (2<sup>nd</sup> Edition). New York: Holt, Rinehart & Winston.
- Koopmans, M. (2014a). Nonlinear change and the black box problem in educational research. *Nonlinear Dynamics, Psychology, and Life Sciences*, 18, 5-22.
- Koopmans, M. (2014b). Change, self-organization and the search for causality in educational research and practice. *Complicity: An International Journal of Complexity and Education*, 11, 20-39.
- Koopmans, M. (2015). A dynamical view of high school attendance: An assessment of short-term and long-term dependencies in five urban schools. *Nonlinear Dynamics, Psychology, and Life Sciences*, 19, 65-80.
- Krueger, A., & Whitmore, D. (2001). The effect of attending a small class in the early graders on college-test taking and middle school test results: Evidence from Project STAR. *Economic Journal*, 111, 1-28.
- Maxwell, J. A. (2004). Causal explanation, qualitative research, and scientific inquiry. *Educational Researcher*, 33, 3-11.
- Mayer, C. (2010). The school building as a pedagogical space. *European Educational Research Journal*, 9, 116-123.
- Mosteller, F. (1995). The Tennessee study of class size in the early school grades. *The Future of Children*, 5, 113-127.
- Murnane, R. J. & Willett, J. B. (2011). *Methods matter: Improving causal inference in educational and social science research*. New York: Oxford University Press.
- Murray, D. M. (1998). *Design and analysis of group-randomized trials*. New York: Oxford University Press.
- National Research Council (2002). *Scientific research in education*. Committee on Scientific Principles for Education Research. Center for Education. Division of Behavioral and Social Sciences and Education. Washington, DC: National Academy Press.
- Neef, N. A., Shade, D., & Miller, M. (1994). Assessing influential dimensions of reinforcers on choice in students with serious emotional disturbance. *Journal of Applied Behavior Analysis*, 25, 555-593.
- Newman, D., Finney, P.B., Bell, S., Turner, H., Jaciw, A.P., Zacamy, J.L., & Feagans Gould, L. (2012). Evaluation of the effectiveness of the Alabama Math, Science and Technology Initiative (AMSTI). Washington, DC: National Center for Education Evaluation and

Regional Assistance, Institute for Education Sciences, U.S. Department of Education (NCEE 2012-4008).

Passmore, J. A. (1980). *The philosophy of teaching*. Cambridge, MA: Harvard University Press.

Ritter, G. W., & Boruch, R. F. (1999). The political and institutional origins of a randomized controlled trial on elementary school class size: Tennessee's Project STAR. *Educational Evaluation and Policy Analysis*, 21, 111-125.

Vinovskis, M. A. (2009). *From A Nation at Risk to No Child Left Behind: National education goals and the creation of federal education policy*. New York: Teachers College Press.

What Works Clearinghouse™ (2014, March). *Procedures and Standards Handbook* (Version 3.0). [http://ies.ed.gov/ncee/wwc/pdf/reference\\_resources/wwc\\_procedures\\_v3\\_0\\_standards\\_handbook.pdf](http://ies.ed.gov/ncee/wwc/pdf/reference_resources/wwc_procedures_v3_0_standards_handbook.pdf) Retrieved on March 23, 2015.



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## About the Authors

Ruth Anderwald + Leonhard Grond live and work in Vienna as an artist duo. Since 2014 their main focus has been on the artistic research project *Dizziness—A Resource*. Since 2012 they have been curating *HASENHERZ*, a screening and discussion series inspired by Arnold Schönberg's *Society for Private Musical Performances*. From 2013-2014 they worked with the writer and essayist Anna Kim on a wallpaper project. From 2003-2007 they worked on the artist book *Notizen zu einer Küste* (Notes on a Coast), combining their eponymous photo series and the first anthology of contemporary Hebrew lyric poetry ever translated into German. Their numerous exhibitions and screenings include: *What Would Seeing be Without Us?* mumok cinema - Museum of Modern Art, Foundation Ludwig, Vienna (2014); *Trees are Companions*, Whitechapel Gallery, London (2013); *Camera Solaris*, Center for Contemporary Art, Tel Aviv (2011) and Museum for Applied Arts, Vienna (2008); *Construction Site As Far As The Eye Can See*, Institute for Art in Public Space Styria, Universalmuseum Joanneum, Graz (2011); *Shattered Horizon*, Himalayas Art Museum, Shanghai (2010); *Film Centre Pompidou*, Paris (2009); *Paradise Now! — French Essential Avant-Garde Cinema (1890-2008)* Tate Modern, London (2008), *Notes on a Coast*, Herzlyia Museum of Contemporary Art (2005).

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**SAVE THE DATE –  
Announcing the 2016 COS CONFERENCE  
Venice, Italy, 7–9 April 2016**

We are happy to announce the second COS conference in Venice in April 2016.  
The topic of our gathering is

**Flow beyond Systems**

**Delightful Development of the Self and of New Systems  
through Somatic Intelligence**

Centro Don Orione ([www.donorione-venezia.it](http://www.donorione-venezia.it)), Venice, Italy

“Flow beyond Systems” is understood as the creative force of new realities for organisations and society through each of us. The lively nexus between the worlds of organised systems and individual worlds is our main focus: Individual development faces challenges and in return poses challenges to organisations and society. Growing together, step by step, requires facilitating the interplay between individuals and existing organisations and new organisational realities that are waiting to be created.

The way we lead and organise ourselves in collectives is reflected by what organisations, larger social structures and ourselves as parts thereof have become. Freedom and structure do not pre-exist in organised communities but are relationally constructed in the common space to which its (more or less) equal members bring their uniqueness and create something of (more or less) lasting value such as an organisation or larger organised structures. Leadership is momentous for supporting development and meaningful creations beyond known forms.

Reaching beyond is neither a result of will power nor sheer mental excellence, nor can it be made to happen. Such attempts tend to result in forms of mind-body splits, bringing forth unwelcome symptoms or rigid, “more-of-the-same” patterns in the relation of the body and its organised, interactional environment becoming powerful limiting patterns. Changing these realities largely depends on our ability to intentionally bring somatic intelligence to the creation of new larger structures.

The conference offers cutting-edge methodology for bridging inner and outer worlds and serves as a co-creative space for development, transformation and inspiration. The participants engage in rich conversations, deepen relationships with like-minded colleagues, forge collaborative partnerships and have an opportunity to integrate and share insights and learning. We invite you to join a delightful development!

## **Become a Friend&Member of COS!**

Join the COS movement and become a Friend&Member of COS! COS is a home for reflective hybrids and a growing platform for co-creation of meaningful, innovative forms of working and living in and for organisations and society, between and beyond theory and practice. We invite you to become an active member of COS.

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- Development and transformation at COS creations seminars
- Creative scientific publishing and reading between and beyond theory and practice
- COS LinkedIn Virtual Community
- And more ...

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The future is an unknown garment that invites us to weave our lives into it. How these garments will fit, cover, colour, connect and suit us lies in our (collective) hands. Many garments from the past have become too tight, too grey, too something...and the call for new shapes and textures is acknowledged by many. Yet changing clothes leaves one naked, half dressed in between. Let's connect in this creative, vulnerable space and cut, weave and stitch together.

Our target group is reflective hybrids – leaders, scientists, consultants, and researchers from all over the world who dare to be and act complex. Multi-layered topics require multidimensional approaches that are, on the one hand, interdisciplinary and, on the other hand, linked to theory and practice, making the various truths and perspectives mutually useful.

If you feel you are a reflective hybrid you are very welcome to join our COS movement, for instance by:

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- Getting in touch with COS-Creations. A space for personal & collective development, transformation and learning. Visit our website: [www.cos-journal.com/cos-creations/](http://www.cos-journal.com/cos-creations/)
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