

Using Theory of Change as Both Theory and Method in Educational Research

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Abstract

Before creating and implementing a new program of research, it is necessary to consider a theoretical or conceptual framework to guide this planning process. Considering there are many models and frameworks available in terms of directing the development of research programs (e.g., the program development model, the logic model), researchers want their research to make a difference and to do so, it should be planned and conceptualized from the beginning to have a direct influence on policy and practice at both national and international levels. We borrowed an approach that is used by many colleagues who are involved in social enterprises and civil society organizations—that is, the use of Theory of Change (ToC). Such an approach helps to demonstrate how a realizable plan works and moves from an aspiration level to be operationalized through implementation and measurement toward attainable goals and outcomes. In this case example, we highlight the methodological use of ToC in educational research planning and development by firstly exploring its usefulness in previous educational research. We then demonstrate its practical application in overall research planning and design with step-by-step guidance and visual illustrations so as to provide readers with the tools and knowledge to implement ToC in their own research planning. The key stages involved in the research planning process using the ToC are discussed with particular reference to our project that explored father/dad involvement with early intervention services for families of children with special educational needs and/or disabilities.

Learning Outcomes

By the end of this case study, students should be able to:

- Understand Theory of Change (ToC) and how it can be used as both theory and method in research program planning and development.
- Explain the key stages involved in a ToC research planning process.
- Discuss the application of ToC as used in previous educational research.
- Critique the usefulness of ToC as both theory and method to your own research planning in your research program.

Project Overview and Context

Historically, there has been a lack of attention to the issue of the father's/dad's role and involvement in Early Intervention (EI). This has resulted in limited research that has represented the voices and perceptions of fathers/dads of children with special educational needs and/or disabilities (SEN/D). Our program of research was planned in a manner that would help to bridge the disconnection in knowledge, perceptions, and practice toward this important area. Importantly, the research was also planned from the beginning to have direct influence in the area of EI as well as implications to national policy and practice. Also, we wanted our research to be understood as making an “a priori” contribution to the realization of the United Nations

(UN) Sustainable Development Goals (SDGs) in the international community, particularly SDG4 (Quality Education) and SDG10 (Reducing Inequalities).

Like many other researchers, we started our research from an anecdotal and experiential position. This was supplemented by reading and reviewing an extensive range of literature relating to father's/dad's involvement and EI in order to further elaborate "the problem" associated with this area. However, we quickly discovered that when this topic had been researched previously, the focus tended to jump from identifying a problem to choosing ways of improving it rather than articulating the reasons why taking a certain course of action would attain these desired outcomes and how it could be achieved through multiple pathways.

From our knowledge of the innovative work being conducted by colleagues in the Trinity Centre for People with Intellectual Disabilities (TCPID <https://www.tcd.ie/tcpid/>; see [Shevlin et al., 2020](#)), we were aware of how they used the Theory of Change (ToC) approach to frame the aspirations and planned outcomes for the sustainable development of the Center. When presenting their work to funding organizations, the use of ToC helped them to demonstrate a well-considered understanding of the various important steps that must be articulated in terms of demonstrable work practices. This practical example from the TCPID provided us a good rationale for applying a ToC approach to guide the planning and development of our own research program.

Our research topic focused on father's/dad's role and involvement in families of children with SEN/D, and the research was conceptually situated in the area of EI—which is referred to as a complex and interdisciplinary system that is provided to children and their families from birth to six years who are "at risk" for developmental delay or who have a developmental disability ([Guralnick, 1993](#)). Due to the inherent complexities associated with work in this area, a variety of settings (e.g., home, schools, clinic-based settings), professionals from different disciplines (e.g., speech and language therapists, social workers, medical professionals), and clients (e.g., families of children with SEN/D) were critically involved in the context of our research program. This involvement was important for the research. Without such involvement, we would not have been able to account for the variations in stakeholders' perceptions of father/dad involvement in EI and the complex connection between realities and the program itself, the desired research outcome, and its associated long-term change would not be achieved.

What we were interested in was the opportunity to get particular outcomes and outputs, and to do so, we needed the ToC to help with the planning of the research. Using the ToC approach helped us to conceptualize what these "outcomes" and "outputs" might be and, importantly, how to operationalize these steps and ensure that the research plan enabled these to be attained through the research questions and methodology.

Having explored a number of other models and frameworks (e.g., the Logic Model), we decided to adopt a ToC approach as an integrated model as both theory and research method to guide the conceptualizing, planning, and development of our outcome-oriented and complex research program. It enabled our research program to be located within a wider analysis of how change comes about, so that the links between the research implications and long-term outcomes associated with SDGs (e.g., SDG4: Quality Education,

SDG10: Reducing Inequalities) could be connected.

ToC: An Overview

ToC is generally defined as a theory-based approach whereby stakeholders in a planning or evaluating process of a program define their goals and identify the interventions to promote change at different levels (Taplin & Clark, 2012). It is an effective graphical/visual illustration that represents how a program is intended to work by identifying the connections, pathways, assumptions, and also the relationships between program components, such as inputs, activities, outcomes, and long-term change that associated with the specific program. In other words, it is a tool that helps you to represent the need you are trying to address, the changes you want to make (your outcomes), what you plan to do (your activities/outcome pathways), and the underlying assumptions (unintended consequence) that may affect your desired outcomes.

ToC and Its Application in Educational Research

Within the area of education, teachers, principals, policymakers, curriculum coordinators, and other key people involved are often responsible for developing and evaluating specific educational programs for both children and educators. In this programmatic context, the practicality of ToC approach has been demonstrated in several studies (e.g., Armitage et al., 2019; Connell & Klem, 2000; Odom & Wolery, 2016). For example, Connell and Klem (2000) advocated the efficacy of applying ToC in educational program planning and reforming through a detailed demonstration of their real-life case example of educational reform initiatives carried out in urban schools at a district level. In their study, expected outcomes (long-term goal) were proposed, which was to improve the educational and adulthood outcome of urban students and the quality of teaching and learning. In accordance with the ToC approach, program “inputs” in this study were directed at students, teachers, board of education, and district officers and personnel, and the “action strategies” (activities) were illustrated as increasing funding, student engagement, and improving student performance in the area of math and reading, and so forth, that could be applied by the “inputs” to deliver expected outcomes. Key steps (e.g., identifying assumptions and populations, developing action strategies) involved in the planning process were also illustrated. The study demonstrated the usefulness of ToC in educational program planning and reform. As well, it highlighted the efficacy of applying ToC in improving the quality of education programs.

Section Summary

- This case study is based on the planning, conceptualizing, and development of a program of research that explored the issue of father/dad involvement in EI.
- A key concern of the research was to plan for meaningful change and to demonstrate how and why these desired changes could be achieved through multiple pathways.
- As an approach that is widely used in social science and educational research to aid the planning and evaluation of educational change and reform projects, ToC is further applied as both theory and method to articulate and attain the goals and outcomes of the research.

Research Design

The use of ToC as both theory and method in the research planning process drove research design for our research project. Evidence from the literature review in coupled with ToC map suggest that father's/dad's role and involvement in the lives of children with SEN/D within the EI context is an area with an exiguous research and literature base. It also suggests that multiple realities and pathways to long-term outcomes exist as there is no generalized and agreeable consensus about the intervention context where fathers/dads of children with SEN/D are situated in. Given the paucity of research evidence within the current area under investigation, a qualitative approach was required, especially when it is related to experiential issues. Thus, in order to understand the diversity of EI service delivering and investigate on the preceptions and expereices of target research populations toward father's/dad's role and invovlment in families of children with SEN/D within the EI context, three studies were carried out:

Study One: One-to-one interview with fathers/dads—Fathers/Dads of children with SEN/D were invited to discuss, in some depth, their experiences of, perceived barriers to, and preferences for EI services.

Study Two: One-to-one interview with EI professionals—EI professionals working in different disciplines (e.g., therapeutic, social work/care, education) were recruited to discuss their preceptions and roles in supporting and promoting the involvement of fathers/dads in EI services.

Study Three: One-to-one interview with mothers/mums—The participants were invited to share their views toward fathers'/dads' role and involvement in the lives of children with SEN/D within the EI context.

Section Summary

- Using ToC as both theory and method in the research planning process provides rationale for the employment of a qualitative approach in the case study.
- One-to-one interviews were used to explore the experience, views, and attitudes of individuals toward father's/dad's role and involvement in the lives of children with SEN/D within the EI context.

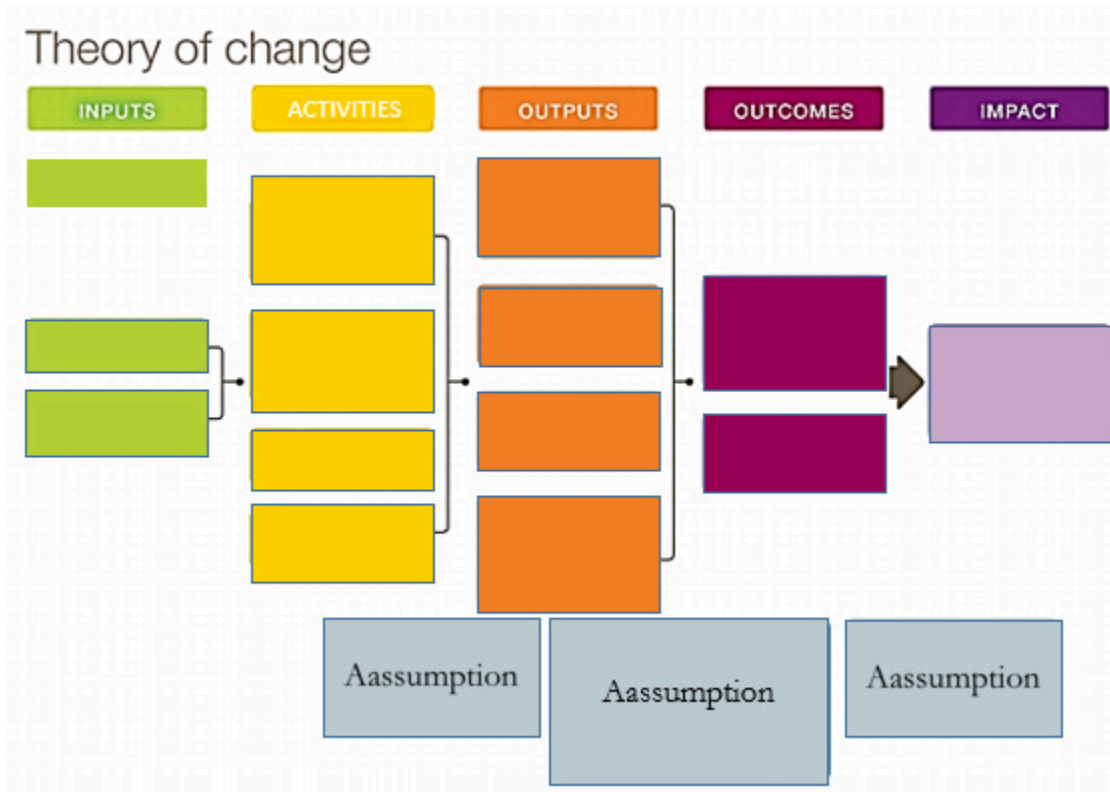
Research Practicalities

As discussed earlier, one challenge in researching education of young children with SEN/D within the EI context relates to the breadth and depth of the topic, complex connection among the various stakeholders, and the implications toward policy and practice. To overcome such challenges, we applied ToC as an integrated model to guide the planning process of our research program.

How We Used ToC as a Method

In the programmatic context, a ToC is often represented in a diagram or chart to help individuals or organizations to describe how and why a desired change is expected to occur (see [Figure 1](#)).

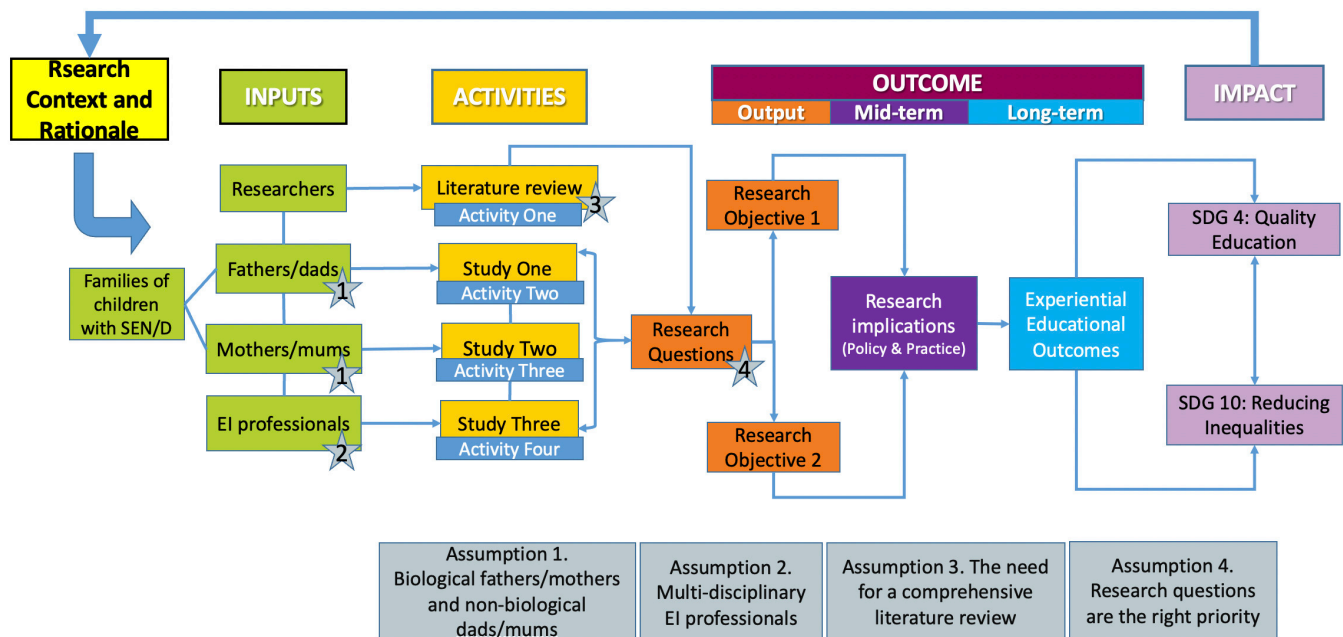
Figure 1. A classic model of a theory of change (ToC).



Source: Medial Research Council (MRC), Theory of Change (<https://mrc.ukri.org/documents/pdf/mrc-dfid-theory-of-change/>)

In our research, this classic model was adopted as a method to help us to map out the overall research structure (see [Figure 2](#)).

Figure 2. ToC process in the case example.



The ToC model in this case example begins with an analysis of the research context and the development of a rationale for the research program (i.e., yellow box). As the research was undertaken to bridge the disconnection in knowledge, perceptions, and practice toward the area of father/dad involvement in EI, ourselves as researchers along with families of children with SEN/D (fathers/dads and mothers/mums) and EI professionals were identified as inputs (i.e., green box). Four research activities were then carried out by different inputs which are:

- Activity One: Traditional literature review.
- Activity Two (Study One): One-to-one interview with fathers/dads.
- Activity Three (Study Two): One-to-one interview with EI professionals.
- Activity Four (Study Three): One-to-one interview with mothers/mums.

The implementation of these four research activities enabled a set of interrelated short-, mid-, and long-term outcomes (i.e., red box) to be achieved. All these achievements reflected impact on inputs' behavior, their understanding of the issue, and associated outcome concerning the change. By doing this, values, worldviews, and philosophies in the international development community were further addressed so that "a priori" contribution was made to the realization of SDG 4 Quality Education and SDG 10 Reducing Inequality (i.e., purple box).

How We Used ToC as a Theory

While ToC was used as a method that helped us to map out our overall research structure, it was also used as a theory to guide the development of our research design and the philosophical stance underlying such design. Mindfully or not, we, as researchers, are theorists of change. We are theorists insofar that we seek to effect change by developing research activities and specify the reasoning to explain why such activity will

produce the desired change—that is, the identification of assumptions.

Assumptions represent individual beliefs, values, professional experiences that inform the interpretations that researchers and stakeholders bring to bear on the process of change, they are the conditions that need to be in place to make a ToC work (Chen, 1990). Therefore, identifying assumptions underlying our ToC was an important procedure. As it was illustrated in Figure 2, main assumptions (i.e., grey star, grey box) were identified explicitly:

- Assumption 1: Biological fathers/mothers and non-biological dads/mums—the definition of “father” and “mother” in our research program included both biologically related “father” and “mother” and non-biologically related “dad” and “mums” to the child.
- Assumption 2: Multi-disciplinary EI professionals—as EI is interdisciplinary in nature, EI professionals who are involved in the research program must be from various disciplines for the outcomes to be achievable.
- Assumption 3: The need for a comprehensive literature review—a comprehensive literature view on the issues of fathers/dads involvement and EI was needed to formulate the research questions and the anticipated empirical research activities.
- Assumption 4: Research questions are the right priority - this was to ensure the latest evidence generated from our research is considered when seeking implications to national policy and practice.

The documentation of all the assumptions and justifications of the research activities provided us a strong rationale for the employment of a qualitative approach exploring the contemporary issues on the role and involvement of fathers/dads in EI services. One-to-one telephone interviews were carried out with fathers/dads, EI professionals, and mothers/mums. All the interviews were recorded and transcribed verbatim. Each transcription was reviewed and analyzed using thematic analysis. To provide a more in-depth and sharply focused exploration of issues on father/dad involvement in EI from different perspectives of each participant group, a cross-case analysis was performed to following the thematic analysis of each transcript. Findings highlighted a significant gap in knowledge, views, and practice among fathers/dads, EI professionals, and mothers/mums toward the issue of father/dad participation in EI.

Section Summary

- ToC can be used as both theory and method to guide the development of research design and overall research structure.
- The methodological use of ToC requires the development of a system map that articulates and graphically illustrates the set of changes the research program hopes to make and the logical order in which anticipated outcomes will occur.
- ToC can drive programs as well as people. Documenting and making assumptions explicit reflects the theoretical use of ToC.

Method in Action: Key Stages in Developing a ToC

Having demonstrated how we used ToC as both theory and method to guide the planning and development of our research project, the following section summarizes the research methodology of this case example and discusses the key stages involved in developing a ToC.

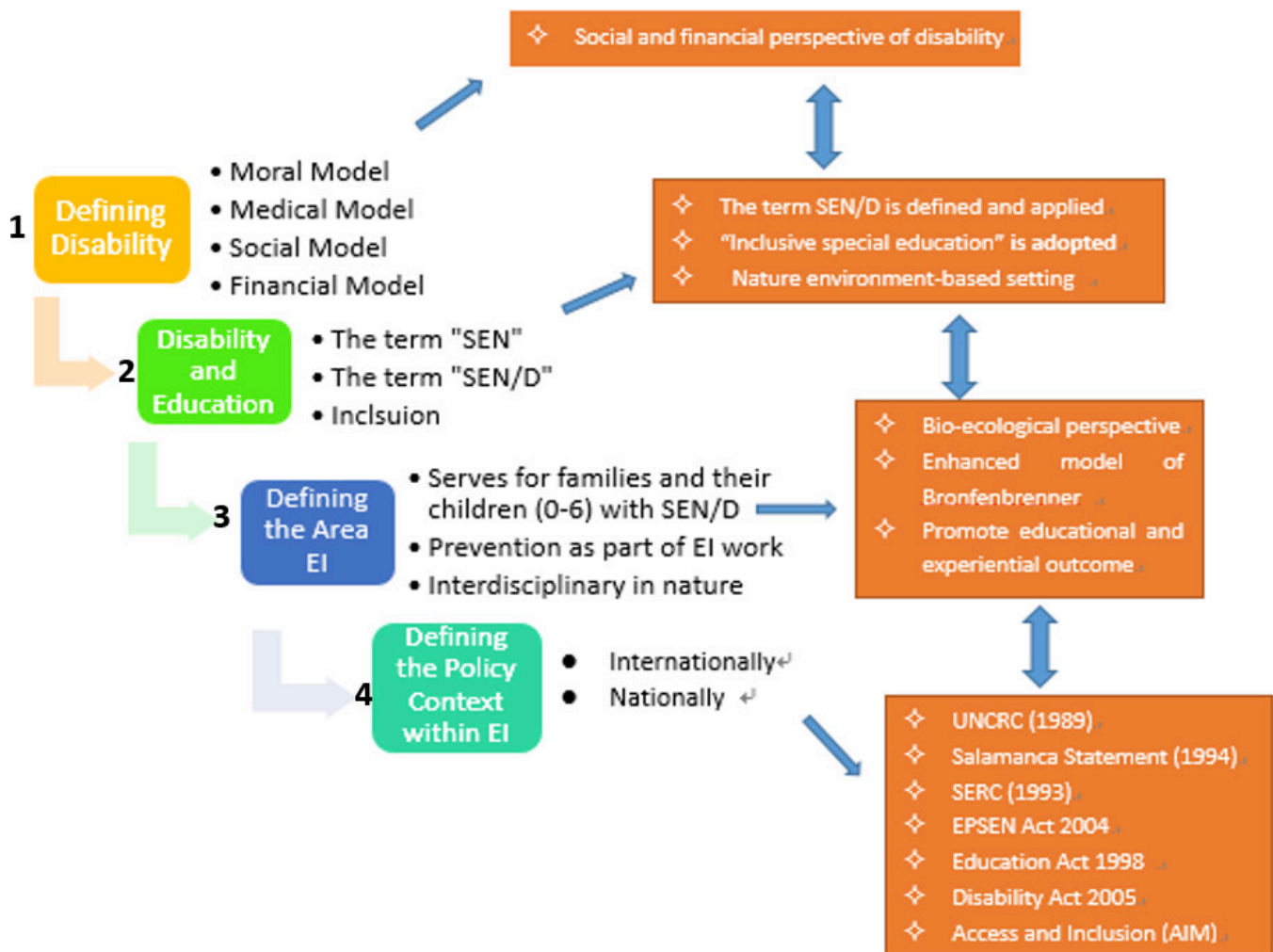
Stage 1: Defining and Analyzing the Context

At the very beginning of a ToC process, a clear understanding of the context for the project and the issue is important. This might include an analysis of the external context where the problem is situated, as well as the current configuration of stakeholders, networks, and actors, and their relationships in such context. To be credible, these steps lay a foundation in any ToC as it builds a contextual and an environmental relational for the development of the research program and its research design. We would, therefore, recommend that you seek, collect, and share evidence (if possible with your research team/supervisor/colleagues) as much as possible to ensure your ToC is focused on the most relevant issues.

In our case example, we applied a participatory approach through the form of a series of discussions and meetings, and consultation with other professionals (e.g., a professor in education) who are specializing in the area of EI, as well as the literature, to gain an advanced and comprehensive understanding of the overall research context.

In the first round of discussions and meetings, we carried out a few think tank sessions to generate information on the existing issues, evidence, beliefs, and policy within the area of EI. This round helped produce a contextual overview of where we wanted our research project to be situated from a wider research perspective ([Figure 3](#)).

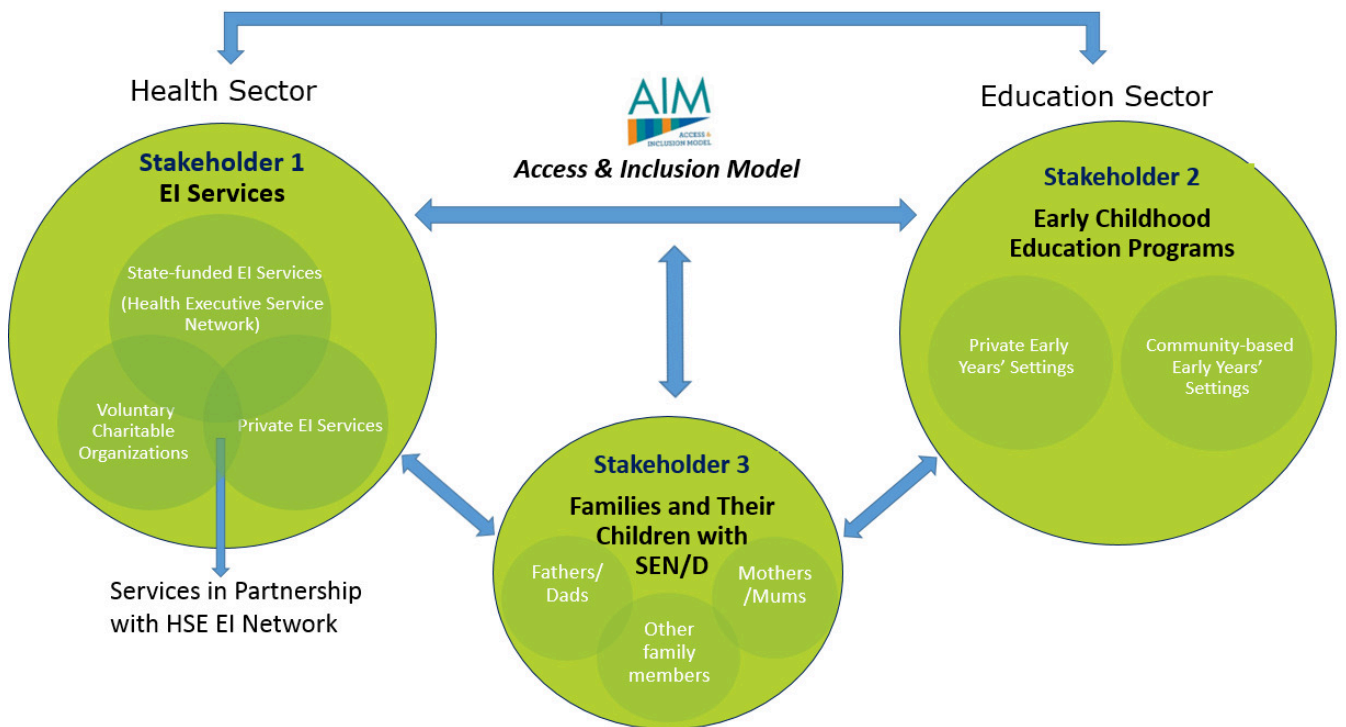
Figure 3. Context analysis of our research program.



The context analysis of our research program started with an exploration of the historical context of disability (i.e., yellow box number 1), followed by an examination of the recent developments regarding disability and education (i.e., green box number 2). The analysis of the progressive relationship between disability and disability in the educational context served as a necessary context for the understanding of the area of EI (i.e., blue box number 3). This allowed the general information on existing evidence, issues, assumptions, practice, as well as policy within the area of EI (i.e., green box number 4) to be gathered and presented in an overall picture for further planning of the research program.

The second round of discussions was conducted to identify stakeholders, networks, and power relations within the research context. This round helped to clearly outline the relationships between multiple stakeholders, potential collaborators, influencing partners, as well as contextual and environmental conditions in the area of EI within the Irish context (Figure 4).

Figure 4. Inputs/stakeholders relationships and networks in the context.



In our case example, the stakeholder groups are all co-related to each other (i.e., the blue arrows). While two stakeholder groups (i.e., stakeholder group 1—EI services and stakeholder group 2—early childhood program) from both the health and education sector are incorporation regarding EI service delivering as per Access and Inclusion Model (AIM), families and their children with SEN/D are defined as the third stakeholder group as they are recognized central target of EI practice. Within these three main stakeholder groups, a variety of inputs were identified (see Figure 2). This helped to set out specific investigation targets and intervention points for our program of research.

Stage 2: Define the Long-Term Outcomes and Associated Mid-Term and Short-Term Outcomes

Having the research context mapped out from Stage 1, we placed our focus on the ultimate outcomes before the desired long-term impact can happen. This is significant as it provides us opportunities to think backwards through the ToC to identify the best ways to achieve desired outcomes and articulate the reasons why planned research activities would attain these outcomes. Again, a series of dialogues and discussions were carried out based on a few key questions that were developed through Stage 1:

1. What do we know about the current knowledge on father/dad involvement in EI?
2. What is the current situation that we intend to impact?
3. How will the problem change if the research is successful?
4. What research activities would need to be performed to influence on knowledge and promote change?

Phase One: Articulate the Long-Term Outcomes

As our research was planned to demonstrate a modest contribution to the UN SDG 4: Quality Education and Goal 10: Reducing Inequality, a set of long-term outcomes needed to be achieved before the impact can be placed at an international development level. Therefore, our long-term outcomes focused on the changes in experiential issues of fathers'/dads' participation in EI, as well as the developmental and educational outcome of families and their children with SEN/D, which are:

1. Fathers/dads have enhanced experience and feel more comfortable toward their participation in EI.
2. Maximize the experiential, educational, and developmental outcome for families of children with SEN/D by having more fathers/dads actively involved.

Phase Two: Mapping Mid-Term Outcomes backwards

Once the long-term outcomes were identified, the main focus was to consider what changes need to happen before the long-term outcomes can occur. In our case example, we defined that the implementation of a series of **Research Implications** to national policies and practices would be the “pre-conditions” for achieving long-term outcomes, which are:

1. Development of father/dad inclusive policy regarding EI and education for children with SEN/D.
2. Establishment of a father/dad-friendly framework/model in EI services and a more balanced approach to family centeredness.

Phase Three: Identify Short-Term Outcomes

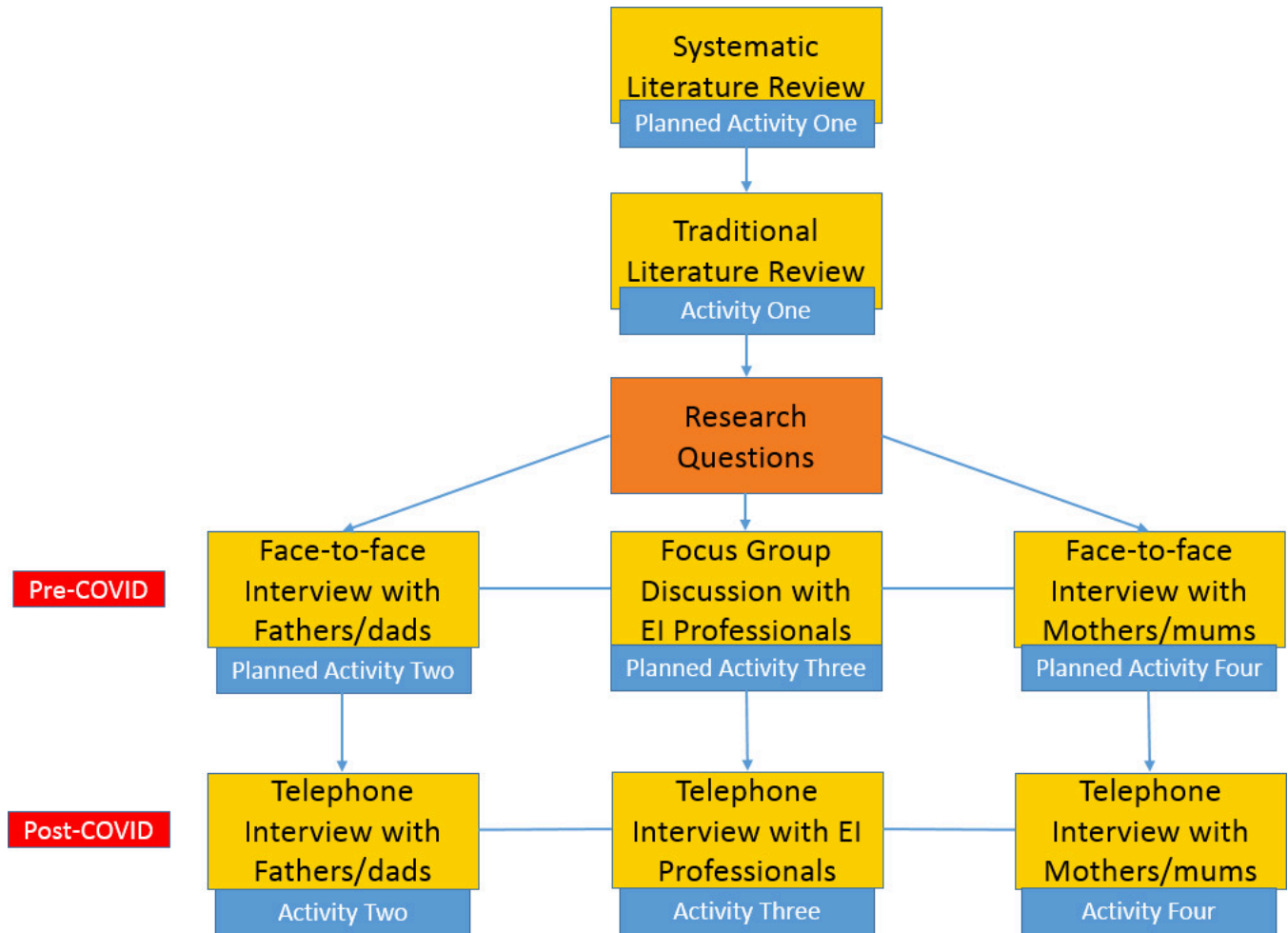
In order to support changes in policy and practice in the area of EI, our short-term outcomes focused on the knowledge, perceptions, and relationships among stakeholders (fathers/dads, EI professionals, and mothers/mums) relating to the issue of father/dad involvement in EI. As these outcomes in a ToC are often achieved through the use of research outputs of the research project ([Vogel, 2012](#)), we viewed these sets of outcomes as our **Research Objectives**, which are:

1. Provide a deep and comprehensive understanding of the current picture/scenario on father's/dad's role and involvement within the context of EI and education for children with SEN/D.
2. Understand how stakeholders (fathers/dads, EI professionals, mothers/mums) involved in such context were perceiving the issue of fathers'/dads' role and involvement in EI.

Stage 3: Research Activities Anticipated to Lead to the Desired Change

Once the identification of the long-term outcomes was completed, and the short-, and medium-term outcomes were mapped backwards, we then focused on mapping out the research activities and sequence of these activities ([Figure 5](#)). By doing it backwards from the long-term impact, connections between the research program and desired long-term change and contribution are presented robustly.

Figure 5. Sequence of research activities.



Activity One: Traditional Literature Review

The identification of the overall research context and the stakeholders/inputs highlighted a need for conducting a comprehensive literature review on research development relating to the area of father/dad involvement in EI. Ideally, a Systematic Literature Review (SLR) was considered as the most appropriate method to yield robust results required to guide the research program. However, challenges arose when the SLR was firstly conducted. Among five identified databases, only a small number of results appeared following the search using defined keywords and synonyms (e.g., “father* OR dad* OR male caregiver*” AND “involvement OR participation” AND “children OR child” AND “disability OR developmental delay OR special needs” AND “early intervention OR early childhood intervention”). Table 1 shows the search result of five databases.

Table 1. SLR search results.

Database	Search result
Education Resources Information Center (ERIC)	39

Database	Search result
Education Full Text	9
PsyINFO	34
Social Sciences Full Text	4
JSTOR	26

Having deleted duplicates results and assessed for eligibility, the total number of articles following the implementation of inclusion and exclusion criterion were 14. This was an undesirable result as it indicated that a great deal of material was not being included, and thus, the search string may be too specific or accurate. Therefore, we sought advice from our subject librarian and performed another search using border and less search terms (e.g., “father*” AND “children with disability”; “father*” AND “early intervention OR early childhood intervention”). Again, similar results filtered out. Based on the results of the systematic search, a cautious conclusion was made that a SLR might not be feasible for our research program as it contains a lot of words and/or phrases in common, such as “fathers,” “dads,” “lives of children with disability.” Therefore, while the SLR is perhaps the most scientific and rigorous approach to a literature review, we decided it would not be the most suitable approach for our research.

Considering one of the objectives in our research was to provide a deep understanding of the current picture/scenario on father’s/dad’s role and involvement within the context of EI, a traditional literature review method was eventually adopted to inform the research program. The scope of the literature review included background (e.g., the historical perspective of fatherhood) and research development regarding father’s/dad’s role and involvement in the lives of all children, including children with SEN/D. Given the abundance in these areas, such comprehensive review enabled a wide array of research literature on this specific topic to be critically examined and summarized, so that a series of research questions were formulated:

1. What are fathers’/dads’ experiences of, perceived barriers to, and preferences for EI service?
2. What are the perceptions and roles of EI professionals in supporting the participation of fathers/dads?
3. What are the perceptions of mothers/mums in relation to fathers/dads’ role and their involvement in the lives of children with SEN/D within the EI context?

Activity Two, Three, and Four: Telephone Interview With Fathers/Dads, EI Professionals, and Mothers/Mums

Activity Two, Three, and Four were developed based on the research questions. These three research activities focused especially on exploring the “lived” experiences, views, and perceived barriers of individuals

who are critically involved in such context, so that an insight into the perceptions and perceived barriers toward fathers'/dads' participation in EI was gained. Such information contributes directly to the achievement of the short-term outcomes identified in the previous stage.

As the research was conducted during the time of the COVID -19 pandemic, a blended approach to data collection was applied. While some face-to-face interviews with fathers/dads and mothers/mums were conducted, one-to-one telephone interviews were also used as a data collection method when the government lockdown and restrictions were imposed in Ireland. This unexpected change to the data collection method was beneficial. When interviewing fathers/dads of children with SEN/D about their perceptions of their involvement, role, and responsibilities, the telephone interview provided a more relaxed, less-threatening and personal, and comfortable platform for them to engage in in-depth conversations with the researcher.

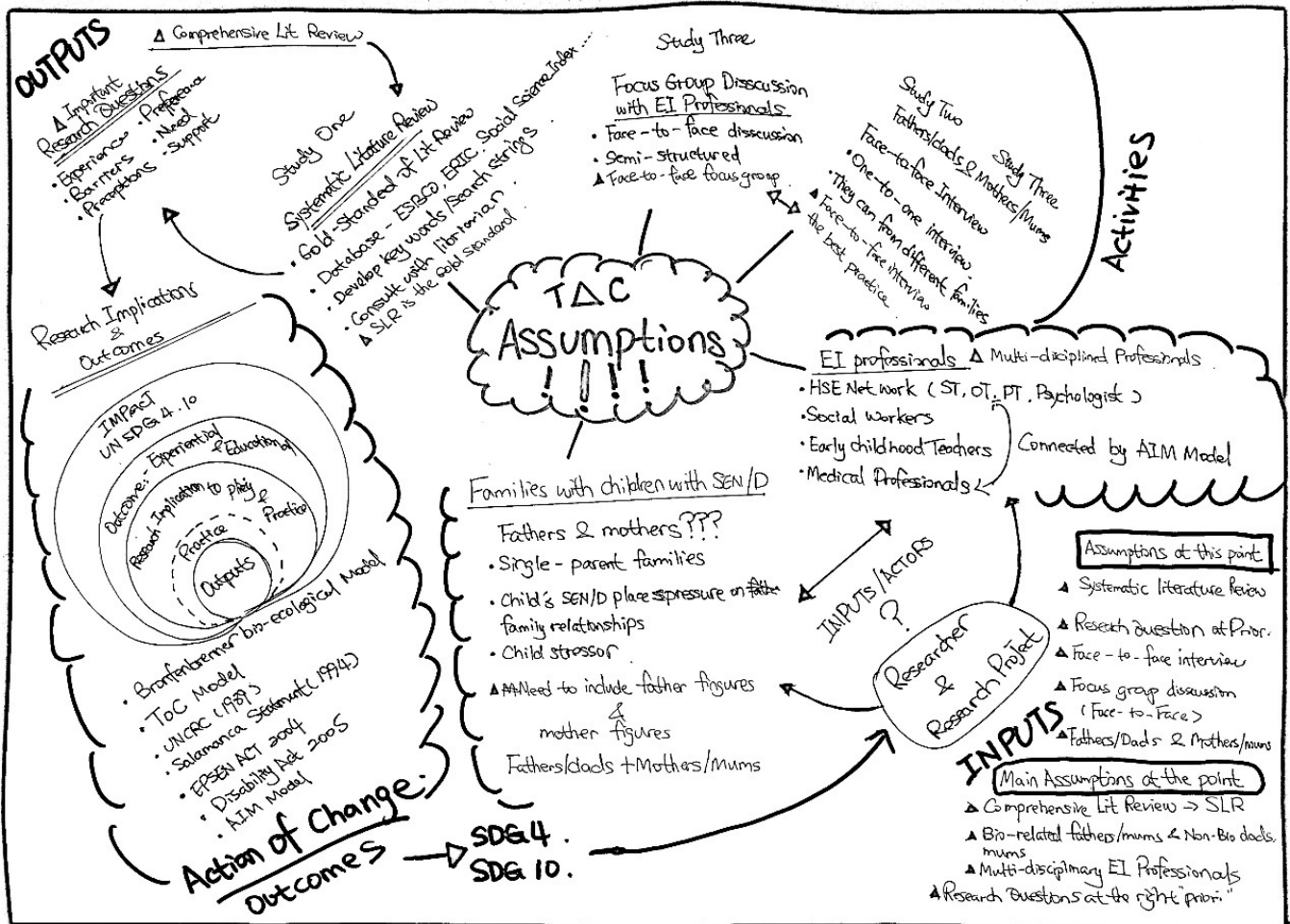
Stage 4: Clarify Assumptions

One of the distinctive features in ToC is the articulation of underlying assumptions about how change occurs. As it was demonstrated earlier, it is where the theoretical application of ToC being reflected in our case example. While making assumptions explicit is perhaps the most important step in any ToC, it is also a challenging process as we often think they are so obvious and thus we do not mention them. Therefore, what is important in this step is to challenge your “theories” and think critically about your process of change with a few questions bearing in mind:

1. Which is the most important, bottom-line change that must be seen?
2. What else would need to be happening to support that change?
3. What is the role of the researcher?

In order to clarify the assumptions underpinning our ToC, mind-maps were used in our case example to articulate and explain the logic behind the overall research program (e.g., the links from one outcome to the next, the roles played by inputs/actors, the overall project rationale). Once a stage of planning was completed, an “assumption mind-map” was drawn to document the basic assumptions and the external factors that would affect the research project. By doing this, we were able to build our “assumptions bank” on the mind map throughout the planning process ([Figure 6](#)).

Figure 6. Our assumption mind map.



Stage 5: Produce ToC Diagram and Use It to Guide the Implementation of Research Project

When the above steps are followed systematically, a strong and robust ToC is developed. What you need to do now is to present your ToC graphically through the use of diagrams, figures, and/or maps (see Figure 1 as an example). Also, a description and summary of the narrative on your ToC process, inputs, activities, outputs, desired outcomes, long-term impact, and assumptions are of help to individuals and professionals who are not involved in developing the ToC—we cannot assume they can understand the diagrams! Once you have this completed, do not forget to use it to guide the implementation of your research project.

Section Summary

- ToC needs to be rooted in a clear understanding of the issue/problem the research program desire to address.
- When identifying outcomes, it might be helpful to work backwards from your impact to think about the changes that need to happen to achieve it.
- Articulating assumptions is critical but it can be challenging. Mind maps can be a useful tool in this process as it enables you to “think out loud” on the things you take for granted and held deeply.

Practical Lessons Learned

1. *A deep understanding of the external context is important.* Defining and analyzing the context in ToC for the research program provides a contextual rationale for the research design, ensuring that it is focused on the most relevant issues. We strongly suggest that when doing the context analysis for your ToC, it is necessary to consider the external environment rather than solely focus on the context of your research topic. For example, our research on father's/dad's role and involvement was situated within the context of EI. In addition to analyzing the existing evidence, issues, practice, as well as policy associated with such context, we also focused on the analysis of the external environment that helped to form the context of our research (i.e., exploration of the disability models, historical context of disability and education) at the start of our ToC process. Such contextual analysis on the external environment provided a fuller and advanced understanding of the inherent complexities associated with work in the area of EI, which further enabled some key questions (e.g., How issues currently affect people?, What are the main factors that influence the issue?) to be addressed in our further planning. If you are writing up your thesis, the external context analysis can be also viewed as a part and parcel of your contextual chapter and theoretical chapter.
2. *A participatory approach helps to confirm the plausibility of your theory.* Although discussions and dialogues is a common starting point in developing a ToC, however, this sort of conversation tended to end before a concrete effort is made to verify the rationality of your "theory." Using our research project as an example, our effort to develop a ToC included a thorough "comprehensive literature review" of all available material and empirical evidence in the area of father/dad involvement and EI to gain an overall picture of the existing knowledge and practice; a series of continued think tank sessions, dialogues, and discussions with researchers and academics to assess whether planned research activities were sufficient to generate desired outcomes and impact. While these efforts can be messy and take time, it ensured our research program be conceptualized and planned to have a direct influence on policy and practice.
3. *Do not assume you have figured it all out—documenting your assumptions as you go along.* Contexts are dynamic and situations will change, regular reflection on whether the documented assumptions are bearing out, and think carefully about the new assumptions and uncertainties that underlie your ToC is significant. Such suggestion was obtained through the lessons we learned from our research program, where a series of changes in research activities and designs occurred due to the COVID-19 pandemic. For example, we were skeptical about replacing face-to-face interview with telephone interview when COVID struck as we "assumed" that face-to-face interview is the best approach to data collection, and it needed to be carried out to achieve the research outputs. As a consequence, we debated and waited—hoping to resume face-to-face data collection. Such entanglement over something we "assumed" we already figured out resulted in a loss of time in our research timeline. Therefore, as far as possible, it is helpful to collect new evidence and document your assumptions and hypotheses, as well as revisiting them constantly as you go along. This will in turn help to enrich your project strategies in the process and make your ToC work more effective. Perhaps creating a

critical “reflective diary/learning journal” would be helpful?

Section Summary

- The external context will influence the impact of a change, viewing change as occurring within a wider system moderate how change activities proceed.
- Make discussions and dialogues a continued process throughout the development of a ToC. Try to work and consult with both internal and external personnel to ensure a wide range of options are explored and considered.
- Context and people can change over time, clarifying and validating your assumptions and ToC map as you go along can increase the credibility of your ToC.

Conclusion

This case study focused on the actual research planning process and demonstrated how ToC was used as both theory and method to guide the conceptualizing, planning, and development phase of our research program that explored fathers’/dads’ role and involvement in EI. Our experiences suggest ToC is a useful and effective approach that can be used in a wide range of research settings throughout the project cycle, from the outset of the research design. It is participatory as it fully engages the research topics, making the links between a research project and development and environmental outcomes explicit, through a dialogue-based process. While it helps researchers logically map out how the activities are undertaken could contribute to a chain of outcomes that lead to the intended or desired impact/change, ToC is also personal in that it allows for researchers’ beliefs, views, and values to be reflected upon, which it makes the underlying assumptions and rationale of a project explicit. Moreover, it is visually stimulating, using diagrams showing pathways from activities to change, and therefore, it encourages researchers to think creatively. Although the development of a ToC can take effort, time, and even sometimes can be messy, it ensures that the research is planned and conceptualized from the beginning to have a direct influence on policy and practice.

Section Summary

- ToC increases the participation of researchers in the research conceptualizing, planning, and development phase.
- ToC development allows researchers’ views and beliefs to be made explicit and then reflected upon as a way to increase transparency of the research process.
- The use of visual tools in ToC makes the process easy to understand and stimulates researchers to think innovatively as they engage in dialogue.
- ToC enables the researchers to attain desired outcomes, and helps to build an impact orientation to guide the research planning process.

Classroom Discussion Questions

1. What do you see as the major benefit of using a ToC to guide the research planning process? Can you identify any potential weaknesses?
2. What are the key stages involved in developing a ToC? Why are they important?
3. If you were applying ToC in your own research, what would be the most important things to consider?
4. Share a story of change that has occurred as a result of a project or a program in your institute. Discuss it in group and present the story graphically through the use of diagrams, figures, and/or maps (Probing questions: “What happened? Who was involved? What do you think helped the change happen? What was it like before change happens?”)

Further Reading

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Web Resources

The Center for Theory of Change (<https://www.theoryofchange.org/>)

Better Evaluation (https://www.betterevaluation.org/en/resource/guide/purposeful_program_theory)

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