8.2. Understanding the goal

Rather than framing the journey of change as a journey with a definite start and finish and a prescribed, defined end goal, this board emphasized the importance of understanding why this change is important. The change in education toward the adoption of learning and teaching styles, with the tools of technology in the classroom, is likely a change that will keep evolving. Education may never have the luxury of being as stable and steady as it has been in the past few decades. The result of this stagnancy has been clearly proven by various studies illustrating a decrease in student engagement. "The research on brain activity by Rosalind Picard and her colleagues at MIT's Media Lab suggests that students' brain activity is nearly non-existent during lectures - even lower than when they are asleep" [5].

8.3. Open to experimenting

Taking risks in the classrooms was encouraged for the sake of finding out what works best to engage students and stage learning opportunities to expand problem solving skills and encourage enquiry.

8.4. Continuous, long term

"Large-scale changes cannot be considered successfully implemented unless they are able to survive evolution of the system and remain useful in a changing world." [3].
This change in education was presented to the entire system as a continuous, long term and evolving change. This led the board to focus on the goal of providing students with a classroom experience which encouraged enquiry and problem solving skills.

8.5. Modelling

Modelling became very important. In words of the interviewees, you cannot expect people to move if you are not willing to make changes yourself. The board's leadership took the first step towards changing by adopting technology into the ways they do everyday things. They modelled by participating in the social media dialogue. They learned, they shared and they remained engaged throughout the whole process.

8.6. Genuine passion for education

The most powerful factor that became visible to me very early on in the interviews was the genuine passion for education on behalf of the interviewees. One of the interviewees went as far as admitting he is afraid that in his career he will not be able to take

part and influence the full extent of the much needed education shift [13].

9. Conclusions

The practices and philosophies that emerged in the Levin and Schrum study in the United States, and the additional layer of change factors discovered in this research by examining the experiences of a large school board are confirmed in various literatures.

The OECD (Organization for Economic Co-operation and Development) published work entitled "Schools for 21st-Century Learners" in 2015. Andreas Schleicher, the author of this work discusses themes such as:

- Distributed Leadership
- Professional Development
- Instructional Leadership (curriculum and instruction)
- Collaborative Planning Environments [46].

The Equinox Blueprint, a report published in April 2014 builds on a series of professional conferences on the subject of "Learning 2030". It discusses changes required to propel education change for the students born today who will be graduating in 2030. This extensive report discusses the need to switch to project based learning in the classroom, the need for teachers to evolve as learning coaches, the need to start changing learning environments (classroom spaces, class sizes and age groupings of students), the need to revisit how students are evaluated and the need to give schools the ability to make their own decisions and have autonomy over their management in order to foster creativity. The report discusses the secrets to scaling such a large implementation:

Local input – the author refers to schools' ability to mold their own reforms. This is consistent with this paper's account of this school board's emphasis on grass roots movement rather than a top down approach.

Global applicability through inclusive reforms – Schleicher emphasizes that the scope of this large change needs to be driven by a goal to "improve outcomes for all students" [46]. This theme was also echoed in the interviews with this board's superintendents who stressed the importance of always originating the vision and all the outcomes of this change on the students these changes are meant for.

Sustainability through support networks – Schleicher discusses the need for large scale reform networks which will ensure sustainability of these changes. In the case of this board, we discussed

above the successfully established and active social media network and the interviewees strong emphasis on collaboration and internal and external partnerships.

Pathway to change – Schleicher also discusses an entire pathway to change which is comprised of:

- creating an urgency, or, in other words, ensuring the understanding of what is a stake for students if they miss out on gaining the important skills they need to be equipped with for a world of tomorrow
- creating a coalition – assembling people of influence from various areas of the organization
- creating a vision – a vision around which to create a strategy
- communicating the vision – having the vision is not enough!
- remove obstacles - identifying change leaders who will make changes possible
- Create short-term wins – the coalition will map out the strategy which includes achievable targets that can be celebrated [46].

Although not termed in the same way, the concepts revealed by the board have since then shown up in most recent literature published on best practices for technology based education changes.

Another significant release in latest research on the subject of change in large school systems is a case study report by the Canadian Education Association (CEA). Entiled "Ottawa Catholic School Board: Leading and learning for innovation. A framework for district-wide change", the study analyzes this school board's blueprint for change. The study discusses many stakeholders involved in a system change, including students, teachers and trustees. We learn about the importance of a collaborative work when discussing system changes. This is a theme that validates the importance of distributed leadership. The Canadian Education Association also draws attention to the entire planning process and the importance of constant observation during plan execution. This is something that has not come up in previous research, but once the various techniques are established, there needs to be a constant assessment of the change and correction. In formal Change Management methodologies such as Prosci's ADKAR, assessment along the way and resistance planning are methods used when executing change. Overall, the CEA really focuses on the communications and relationships components in a change management plan which validate so many concepts that emerged in research to date, mentioned throughout this paper.

I hope that the findings in this study enable others, who are facing the challenge of creating change in large organizations, to look at change through a different lens or perspective. Are you trying to create change but you are still stuck in your usual ways of doing things? Are you willing to change first? Are you truly leading the change by creating enough understanding to gain the required support? Are you rewarding your champions? Are you placing your energy and emphasis on the leaders or the nay-sayers?

I hope this paper helps you with taking a critical look at your approach and evolve towards a more mature, inclusive model for creating change.

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