

## MITIGATING THE MATILDA EFFECT ON ERIN M. KEOUGH: COLLECTIVE PRACTICE FOR A COMMON GOOD IN OPEN AND DISTANCE EDUCATION

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### ABSTRACT

As part of series to mitigate the Matilda Effect of women's achievements being falsely attributed to men, this article discusses the open and distance education work of Erin M. Keough through the lens of education as a social common good. Keough's work connects formal and informal education practices with social, economic, educational, and information communication technological policies. Keough advocates that open and distance education leaders are well positioned to collaborate across these four policy areas. Specific examples are drawn from projects based in Newfoundland and Labrador, across various other regions in Canada, and non-Canadian locations. These examples illuminate: the challenges and successes of policy making in an environment of rapidly changing information communication technologies; historic changes of open and distance education from using satellites to high-speed broadband networks; the strength of multi-disciplinary collaborative networks; the impact of open and distance education to connect geographically isolated people; and the social justice of open and distance education being designed to counteract the isolation of women to the home.

**Keywords:** Erin M. Keough, mitigating Matilda Effect, policy making, social justice, distance education history, open learning history, information and communications technology networks, telemedicine

### INTRODUCTION

This article is written in 2023, a time in which objectivity in public discourse has diminished and the idea of a *common good* does not have a prevailing agreed definition. For this article common good will be used to mean, in the broadest most inclusive sense, something that serves the greatest number of persons in a social community while explicitly acknowledging if anyone is not served because they are less privileged. In short, a common good serves a social need. If we consider information as a common good, then the technologies to foster humans sharing that common good can be utilized with a sense of purpose to a social contract. This article explores examples of this from the work of Erin M. Keough, a pioneer in the field of open and distance education. Keough's initiatives demonstrate the successes of working collectively to achieve a common good in open and distance education in Canada and around the world.

This article is part of a series to mitigate the Matilda Effect. The Matilda Effect was coined by Margaret Rossiter in the 1993 essay titled, *The ~~Matthew~~ Matilda Effect in Science* [strikethrough in original title]. Rossiter gave this name to the century's old phenomenon of women's achievements in science being falsely attributed to their male colleagues. It was named after Matilda Joslyn Gage whose first recorded writing on the phenomenon of

ignoring women's achievements in science was printed in an 1870 woman suffrage tract titled, *Woman as Inventor*. While extolling the origin stories of specific scientific inventions, such as correctly attributing the design of the cotton gin to Mrs. Catharine Greene, Gage roots the critique of the phenomenon within the social mores and the prescribed limits of women's employment at the time of invention. Gage describes women of her time (the late 1800s) as being taught from earliest childhood, that to make use of inventive genius talent "would be an outrage against society," exposing the women inventors to ridicule and harsh treatment for displaying superior arrogance (Gage, 1870, p. 6). Today, 30 years after Rossiter coined the term, and more than 150 years since Gage's publication, the Matilda Effect continues to be documented by researchers and historians in the sciences and more broadly across other academic disciplines. Contributing to the mitigation of the Matilda Effect, this series of articles highlights the work of women in open and distance education, with this article's focus highlighting the pioneering work of Erin M. Keough through the lens of education as a social common good.

From the many facets of Keough's published works, this article highlights four aspects. They are social considerations, learner isolation, collaboration, and policy-making in open and distance education. This article echoes Keough's vivid example and situates discussions of these four aspects within the details of practice.

## **SOCIAL ELEMENTS**

Keough's work in distance education began at the most easterly point in North America, the Canadian maritime province of Newfoundland (an island) and Labrador (the mainland). In the *Encyclopedia of Female Pioneers in Online Learning*, the interview-chapter about Erin M. Keough provides an up-close retelling of those beginnings and the experiences in the developing satellite communication for distance education in this region, as rooted in actions to support the social common good of information and the pursuit of knowledge (Bainbridge & Wark, 2023, pp. 234-251). The initial call for proposals to use the Hermes satellite required that the projects be grounded in "social purposes" (p. 237). The two projects approved for satellite use (which would provide one-way video, and two-way audio communication anywhere in the province) were "to help make centralised education and health resources more accessible to people living in rural communities" (Taylor & Keough, 1995, p. 355). These two would continue to be the lynch pins for the growth of satellite-based learning and evolution into online learning in the region. This evolution was fostered by cross-pollination of innovation in formal and non-formal education.

Keough writes about one of those spin-off telecommunication initiatives, called the Women's Economic Network, and connects the innovation use within the social-economic milieu of the time. Here is that context. Newfoundland and Labrador is a sparsely populated rocky region of mainly small rural communities, which for several centuries were dependent on the cod-fishing industry for basic livelihood. "Historically, women had assumed responsibility for the community for extended periods when men were away fishing" (Taylor & Keough, 1995, p. 356). In 1992, a moratorium on cod-fishing ended this commercial fishing industry, changing the rhythm of male seasonal work which, in turn, affected the gendered roles of community leadership because men were no longer "away" for long periods of time. The Women's Economic Network, developed "partly as a response to the crises in the fishing industry," challenged community norms, and focused on social change at the individual and community level as well as at the policy level of provincial and federal governments (Taylor & Keough, 1995, pp. 355-356).

In the 1988 book titled, *Toward New Horizons for Women in Distance Education: International Perspective*, Erin M. Keough collaborated with Diana R. Carl and Lorraine Y.

Bourque about their experiences as distance educators and policy makers serving female learners in a chapter called *Atlantic Canada Perspectives*, with each author writing a separate section. Reflecting on the provision of distance education to female learners in a broadcast form, Carl (1988) wrote:

Distance education... should not reinforce the ghettoization of women confined to the home.... Women [were] encouraged to learn in groups, and to support each other; course assignments required students to access resources within the community. The community, then, [was] viewed as a resource for their education. (p. 110)

Bourque (1988), in that same chapter, also warned against distance education becoming a "women's ghetto" (p. 119). Bourque envisioned that women would remain the driving force, shaping the future of distance education (p. 119). This documents a continued hope, which is aligned with what Gage (1870) championed, that women's pursuit of knowledge is a "freedom from some congenial occupation outside of the prescribed limits" (Gage, 1870, p. 7).

### CONNECTING IN ISOLATION

Educators choose open and distance learning for many reasons. Keough wrote that this field addressed the isolation of the learners, acknowledging that isolation is "only viable for a few" (Keough, 1996, p. 95). In the Newfoundland and Labrador projects, telecommunication technology was used initially to deliver educational programming and then was expanded to host community group meetings. The intention behind this was to "decrease the sense of isolation" felt by learners and community members across the region (Keough, 1988, p. 116). A telemedicine satellite links project between Canada, Kenya, and Uganda, served the needs of geographically isolated physicians in all three countries (House et al., 1987, p. 398). Understanding that human connections strengthen communities, Keough expressed the hope of utilizing open and distance education "to decrease the feeling of isolation of professionals and others living in small or remote communities and thus encourage people to stay there longer. That was really our driving force" (Bainbridge & Wark, 2023, p. 244).

### EXPANDING INTERNATIONALLY

Following the successes of collaborative networking models of telecommunication for distance education within rural Canada (Keough et al., 1995), Keough transitioned to applying what was learned in Canada to non-Canadian countries. An article, co-authored by Keough, reported on the use of satellite telecommunication for continuing medical education between physicians in Canada, Kenya, and Uganda (House, et al., 1987, p. 398). Keough and the other authors described the reasons for this initiative at that time as,

there are many similarities between the medical practice in East Africa and in rural Canada. Physicians in Kenya and Uganda are for the most part, isolated from their academic colleagues... travel is difficult, medical meetings are infrequent and contact with academic colleagues is sporadic at best. (p. 398)

It is worth noting the importance of the approach taken in this tri-country initiative. While imbalances of power and oppression within education exist in general (Freire, 1968/1993), international development initiatives in education can unwittingly marginalize learners by recreating colonial power dichotomies (MacIsaac, 2021, pp. 28-29). Keough and the co-authors reported that this initiative was not a straight Canadian export of expertise. It was a reciprocal learning opportunity for counterparts in all three

countries, Canada, Kenya, and Uganda. Explicitly, they reported that the Canadians, even though they were the experts, expanded their knowledge of information and communications technology from their participation in the initiative (House et al., 1987, p. 400). This is an example of the evolution of the innovative use of satellite communication for education in rural Newfoundland and Labrador, being shared for use in structurally similar non-Canadian locations. Keough's international work involved Brazil, Chile, Dominica, India, Ireland, Jamaica, Japan, the Philippines, St. Vincent/the Grenadines, Senegal, South Africa, Tanzania, Uganda, and the United States of America (Bainbridge & Wark, 2023, pp. 246-249).

### **COLLABORATING TO SUPPORT A SOCIAL CONTRACT**

Keough's distance education practice began with improving access to education and social services throughout the sparsely populated province of Newfoundland and Labrador, truly borne of a need to fulfill, in Keough's own words, a "social contract" of making public resources and social services more accessible to geographically isolated communities (Bainbridge & Wark, 2023, pp. 243-244). Recognizing that no single organization had the resources to serve that need, solutions were sought through the collaboration of multiple organizations from educational, governmental, and financial sectors. Collaborative projects were accomplished while holding steadfast to two foci. One was to understand the rapidly evolving social-economic-cultural contexts of distance education and technology. The other was to formulate how public policy impacts this very dynamic environment while respecting the values of learners and instructors (Keough, 1996, p. 1).

Innovation in open and distance education means being open to the possibilities of using new and emerging technologies to serve an educational purpose. Examples will be used illustrating three impacted groups: female learners, technicians, and funders. The first example of this was the use of teleconferencing to maintain the previously mentioned Women's Economic Network. Connecting geographically isolated women in this way gave them agency (a) to support each other on a practical level and (b) to respond collectively to provincial and federal economic initiatives on a public policy level (Taylor & Keough, 1995, p. 358). Taylor and Keough explored how attempts to address social and economic concerns of communities unfortunately can become fragmented, focusing on single issues resulting in the marginalization of those who are both experiencing the concerns and working to resolve them (p. 358). They advocated, instead, for a holistic approach to address the underlying systemic causes, "including the transformation of belief systems which perpetuate poverty, powerlessness, and violence and which appear to be embedded in the structures of communities, especially (but by no means exclusively) in Western societies" (p. 358).

The second example of this openness to create something new in this field involves the way Keough cultivated relationships with Canadian telecommunication companies to build educational networks (Bainbridge & Wark, 2023, p. 246). The companies would make the sales staff available for consultation, but their views were limited to offering the existing uses of technology. Instead, Keough reached out to the technicians and engineers in order to generate the potential to design new uses of technologies. This rapport was so strong that the Canadian engineers were included on Keough's non-Canadian projects.

Keough's empathy for funders is shown in the third example. Keough's work as a pioneer in the field of open and distance education meant creating something new. Let us consider three elements of creating something new in open and distance education. One element was striving for a new way to serve learners' otherwise unmet needs. Another was designing new information and communications technologies to accomplish that aim.

And yet another was securing funding to make it happen. These are purposely not numbered in this article, as they are mutually interdependent without a prescribed order. Innovation of any of these elements can be hindered by naysayers, unable to envision an untried path as possible. Keough understood that funders have prescribed limits within which to work, describing it as follows:

When you are attempting something new or pushing boundaries, it is not easy for funders (private foundations, international agencies like CIDA [Canadian International Development Agency] or the World Bank, or various government departments) to place your request/interest within their establish[ed] guidelines. Not that people were unwilling; it was sometimes a challenge, that's all. (Bainbridge & Wark, 2023, p. 246)

The ability to operationalize an innovation in open and distance education requires collaboration between those who are willing to imagine a way that does not yet exist.

### **PRACTICE INFORMED POLICY MAKING**

Keough's work in public and private policy development has been responsive to the series of rapid changes in information communication technologies in the late 20th and early 21st centuries. Roberts, Keough, and Pacey (2001) posited, "the public policy literature is not, we believe, familiar to many of our colleagues in open and distance education" (p. 35). Befittingly, we shine a light on Keough's advice for open and distance education policy-making. We chose three publications (Keough, 1996; Pacey & Keough, 2003; Roberts et al., 2001) selected because they contained closely related ideas, extracted their advice for policy-making, removed the context specific details, merged related concepts, and synthesized the advice into a cohesive set. We present our synthesis in the following three paragraphs and use superscript numbers to cite each publication as follows: (1) Keough, 1996 (2) Pacey & Keough, 2003, (3) Roberts et al., 2001.

Open and distance educators work at the intersection of public and institutional policies that affect education, economic development, and information communication technologies.<sup>2, 3</sup> This interplay is complex without a single formula for distance educators to use to navigate policy making in this environment.<sup>1, 3</sup> Open and distance educators who are aware of the avenues of policy influence available to them,<sup>1, 2</sup> analyze the key policy drivers,<sup>3</sup> monitor the policy landscape,<sup>1, 2, 3</sup> and provide input early are well positioned to shape the environment instead of only reacting to it.<sup>2, 3</sup>

Specific recommendations for open and distance education leaders include: (a) becoming more informed about the technical process of policy development;<sup>3</sup> (b) understanding fully the various stakeholder groups, their roles, and the structures through which they are consulted;<sup>1, 3</sup> (c) monitoring policy processes;<sup>1, 3</sup> (d) being clear about desired outcomes for the field and practice;<sup>1, 2, 3</sup> and (e) anticipating the linkage between social, educational, financial, and telecommunications policies.<sup>2, 3</sup> To that last point, an additional advisement is to include paying attention to the economic agenda at the start of the process for a more holistic approach.<sup>3</sup> More often than not the educational, social, and information communication technologies are the primary focus with the economic concerns being addressed secondarily.<sup>2, 3</sup>

The three publications (Keough, 1996; Pacey & Keough, 2003; Roberts et al., 2001) champion the role of open and distance educators to provide balance to the public policy process because they have the ability to navigate a multitude of different structures and

foster cohesion. The challenges are to understand the basic elements of a policy framework, <sup>1, 2, 3</sup> to adjust to an increasing pace of changes with a decreasing timeframe to develop appropriate policies, <sup>1, 2, 3</sup> and to create new organizational structures that can function effectively in a globally networked society. <sup>3</sup> These three articles support that open and distance educators can be effective policy change agents at the institutional and governmental levels.

## CHANGING ROLES AND POLICIES

A particular niche role emerged from Keough's direct experiences innovating in open and distance education and informing public policy to support it. Keough described that role was "to be the middle person between the technical teams and the bureaucrats who, in turn, had to keep the ministers informed and on board, as they made the funding decisions" (Bainbridge & Wark, 2023, p. 248). This is a role that continues to be well suited to open and distance education leaders.

Creating something new in the sand sometimes means building a new sandbox. Using new and emerging technologies to connect learners and instructors can necessitate changing the policies of private sector information and communication companies, funders, educational institutions, and government agencies. In the final chapter of their 1995 book titled, *Why the information highway? Lessons from open & distance learning*, Keough and Roberts used case studies to illuminate information and communication technology government policy impacts on open and distance education. Their approach to analyzing federal and provincial policy instruments advocated for policy changes in response to the emerging information and communication technologies in use at the time. This approach can be used to remove policy barriers to future use of technologies not yet developed.

Broad historic similarities exist between the pre-digital age in Canada and the sectors that influence open and distance education. Governments took an interest in developing and regulating federal waterways, highways, and rail systems for economic trade routes and social goals. A similar interest was made in the telecommunication and broadcasting sectors. Spanning decades of changes from interactive telecommunication to the envisioning of high-speed broadband networks, Keough's writings about the open and distance education field documented the history, framed ways to develop policy, and foreshadowed the social impact of unmet challenges. Privatization of information communication technology (ICT) companies meant a weakening of the social policy goals through ICT (Keough & Roberts, 1995, p. 254). In the 1996 master's thesis titled, *Telecommunications Policy Communities and Policy Options for Rural Areas*, Keough predicted what we now call the *digital divide* and wrote that "some approaches to telecommunications diffusion, particularly in an unregulated and competitive environment, create dichotomies between urban and rural areas, large and small businesses, and social and business applications" (Keough, 1996, pp. 7-8). As communication networks become more sophisticated, a problem emerges that echoes *the last mile* problem in tangible-goods transportation infrastructure. Getting broadband connections to rural and remote areas is difficult (Bainbridge & Wark, 2023, p. 246).

## CONCLUSION: PUBLISH OR PERISH FROM HISTORY

Matilda Gage, in 1870, contemplated what was lost by women not claiming their scientific inventions as their own. More than a hundred years later, Rossiter lends Gage's first name to this continuing phenomenon by coining the term Matilda Effect in science. Since then, the Matilda Effect has been used to investigate this phenomenon in many fields outside of science. Published literature is one common good that records academic history. This

series of articles has been developed to bolster that published record, so that the accomplishments of pioneer women in open and distance education do not perish from the human historic record. The works of these pioneers matter. Aiming to contribute to countering the Matilda Effect, this article's focus was on the work of the pioneer in open and distance education, Erin M. Keough, whose work supports the compelling sense that distance education can fulfill a social contract to collectively foster the pursuit of knowledge as a common good. Keough's self-reflection on professional accomplishments in open and distance education was to call them, "my bit of something left to the world at large" (Bainbridge & Wark, 2023, p. 255).

What do we know from Keough's work? Distance education matters. Collaboration fuels success. Effort is satisfying. Say "yes" to trying new technologies, and participating in policy development. In Keough's own words, "What is a job without challenge? Just another boring day at the office." (Bainbridge & Wark, 2023, p. 246).

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