Paths to school reopening after COVID-19 in Rwanda: School leaders' self-reported roles, strategies adopted and perceptions on the role of Professional Learning Communities

Irénée Ndayambaje, Francis Kamanzi, Marie Solange Bugingo Murereyimana, Claudien Ntahomvukiye, Alfred S. Otara

[1]*University of Rwanda-College of Education, Rwanda*
[2]*Independent consultant*
[3]*Rongo University, Kenya*
Corresponding Author's Email: irenee.ndayambaje@gmail.com

Abstract
In the year 2020, schools in Rwanda closed for six months due to the COVID-19 pandemic. The present study examined how school leaders' fulfilled roles to minimize learning losses and cope with the crisis at the school reopening. This study employed an explanatory sequential mixed-method research design. Multi-stage cluster sampling, judgmental sampling, and simple random sampling techniques were employed to arrive at a sample size of 54 secondary schools. Respondents were headteachers and their deputies in charge of studies. Primary data were collected via questionnaire surveys and interviews. Both quantitative and qualitative data were collected. Findings indicated that to mitigate learning losses, school leaders participated in remedial learning and additional homework was given to mitigate potential dropouts or learning losses. Indeed, Professional Learning Communities attended by school leaders, as well as community engagement, were helpful in ensuring that the situation returned to normalcy in schools after prolonged school closure.

Keywords : School leaders, School reopening, COVID-19 pandemic, learning loss, Rwanda

Introduction

Along with profoundly affecting the world's economy and culture, the COVID-19 pandemic has undoubtedly altered the educational landscape (World Bank Group, 2021). On the school leadership side, a new chapter on school leadership in emergencies was developed (Harris & Jones, 2020). This was derived from the fact that crises are distinct from the ordinary persistent issues that schools deal with regularly (Smith &Riley, 2012). Hence, in times of crisis, the school leaders' decisions and actions are tremendous to determine their level of success (Ruben & Gigliotti, 2016).

According to UNESCO (2020) and UNICEF (2020), there have never been such severe disruptions in education, which are hard to survive. More specifically, for schools to reopen, school leaders were required not only to be visible but also to take the lead in the process (Huber, 2021). The reason is that, in times of crisis, leadership involves three strategies: prevention, response, and recovery (Mayer et al., 2008). These strategies are thus determinant for their overall performance (Burwell & Terry, 2021; Ng, 2021). It is true that with COVID-19, school leadership practices have changed significantly and possibly permanently (Harris, 2020).

In Rwanda, due to COVID-19, schools closed from 15th March 2020 and gradually reopened from 2nd November 2020. Considering the ground realities that most primary school children live in rural areas, where

households have limited educational backgrounds and financial affordance, keeping the students in the learning mood was not easy. For instance, it is reported that only 50% of the students have been able to follow the aired radio learning programs (Akayezu, 2021). Moreover, one of the surveys conducted to follow up on the launched remote learning indicated that in the week of 14-16 April 2020, while the entire country was still under total lockdown, the highest rate of students who enjoyed the support from their parents was estimated at 56% (REB, 2020); the rate that might have substantially decreased with the gradual reopening of businesses and activities to which parents must attend to. Hence, it is evident that it was a highly engaged task for school leaders to ensure a successful back-to-school journey after prolonged school closure imposed by COVID-19. Therefore, this study aimed to explore paths that school leaders went through to ensure a successful school reopening after COVID-19 in Rwanda.

This study was motivated by the fact that whereas effective learning requires that school leaders play a pivotal role in setting and have full control over the learning environment, with the imposed shift to remote learning due to COVID-19, school leaders were not at the forefront of the design of the learning environment and a good number of them lacked required technical expertise to monitor the online learning environment. Hence, it is imperative to explore paths, roles played and strategies they used to ensure a smooth and successful school reopening after COVID-19 in Rwanda and, more importantly, enlighten the role that Professional Learning Communities they are called to attend might have played.

Professional Learning Communities (PLCs) are established forums or platforms whereby, in regular manner, teachers engage one another into practices that are meant to uncover individual and collective strengths and weakness and thus devise tailored strategies to solve revealed challenges impending on effective teaching and learning (Brodie & Chimhande, 2020). It should thus be understood PLCs are primarily meant to address the students 'learning and improve results. They do happen through collaboration and conversations among teachers focusing on new curricula, materials, and strategies to meet the needs of the students (Little, 2020).

Specific objectives

i. To explore roles played and strategies adopted by school leaders to minimize learning losses at the school reopening after the prolonged school closure due to the COVID-19 pandemic.

ii. To determine the role of Professional Learning Communities attended by school leaders in the back-to-school journey.

Literature review
The learning environment amidst COVID-19 pandemic

Beyond being a traumatic and demanding global epidemic (National Academies of Science, Engineering, and Medicine, 2020), the COVID-19 pandemic imposed changes in the usual teaching and learning environments, and these changes were a must (Borkowski et al., 2021). Consequently, there were increasing concerns about the students'

return to class and strategies to mitigate the learning losses, especially for children from world's poorest nations (International Children's Fund, 2020). The increasing worry was built upon the fact that with the COVID-19 pandemic, in-person instruction was put on halt, and education has been rebuilt as a technologically cutting-edge home-based online service (Harris, 2020).

While the old norms were that before making any changes to the teaching method, school administrators should actively incorporate the students and their families, online was abruptly imposed as the sole alternative (Zhao, 2020). Students and teachers and head teachers did not have access to technology (ICT gadgets and high-speed internet), assistive technology for those with a disability, or the possibility of technical support. This is true because studies show that distance learning only reaches fewer than 50% of students in low-income nations and 80% to 85% of students in high-income ones (UNESCO, 2020).

Teachers were challenged to adopt effective techniques to track students learning at a distance (Kuhfeld, 2020), to give them regular feedback during remote instructionand set up monitoring systems to measure changes in learning outcomes (UNESCO, 2020). The only mediation means was live interaction between students and their teachers through platforms such as Zoom and Google Meet yet not all teachers and students had access to these. Hence, the question was 'were pupils really learning?' (Shepard et al., 2020). Hence, this would arouse the issue of access to digital technologies (Ampofo et al., 2014), quality (Benigno & Trentin, 2000) and students' performance (Tzeng et al., 2007) again.

Emergence of remote instruction in Rwanda during the COVID-19 pandemic

The outbreak of COVID-19 pushed the government to put in place a range of measures. Schools were closed on March 15th, 2020. Consequently, an estimated 3,574,070 students in Rwanda were affected by the school closure (MINEDUC, 2020). To ensure the continuity of learning, remote teaching and learning were resolved to avoid students' redundancy and total disconnection from schools. In basic education, remote learning was introduced using mainly Television, radio, Mobile USSD, YouTube and web-based e-learning platforms (REB, 2020). The delivery of lessons via remote platforms as a response plan to the outbreak of COVID-19 had the following objectives (Ministry of Education, 2020):

- To ensure continuity of learning and tracking student progress to inform and adapt programming;
- To ensure the safe reopening of schools and the return of all students;
- To ensure the health and safety of children on their return to school;
- To protect vulnerable groups of students (girls, children with disabilities, and low-income families) and teachers (underpaid and voluntary) from potential negative impacts of the crisis;
- To generate resilience to prepare for the potential recurrence of the crisis or other emergencies.

The back-to-school struggle and the role of professional learning communities for school leaders

While remote learning has been a challenging venture, the back-to-school with gradual school reopening due to COVID-19 health measures became another struggle for school leaders. With school reopening, school leaders had an obligation to ensure a safe back to school, provide mental health clinical support to children who might have been affected by tension and anxiety caused by COVID-19 (Upoalkpajor & Upoalkpajor, 2020). They were also expected to guarantee that age-going children and continuing students are all back. While teachers would be expected to be mature enough to deal with the consequences of COVID-19, it was still the responsibility of school leaders to act with compassion and support teachers who might have been affected by COVID-19 in their well-being to positively impact their job performance (Kwatubana & Molaodi, 2021). All these efforts required the school leaders to use an unprecedented leadership style (Harris & Jones, 2020).

Head and Alford (2015) state that leadership entails coordinating tasks to expand and maintain an organization. Therefore, the numerous difficulties that COVID-19 presented to school leaders left most of them exhausted (Harris & Jones, 2020) because the COVID-19 pandemic complicated and created disruptions in students' stability and school routines (Karasavvidou & Alexopoulos, 2019; Schleicher, 2020). It is documented for instance that school leaders found themselves holding multiple roles under the pressure of time and resource constraints, consequently requiring very sophisticated leadership skills (Bolden, 2011). This is true in the sense that school leaders are expected to inspire confidence in teachers and the school community to handle circumstances that can cause some turbulence (Myers, 2014) as it was the case for COVID-19 pandemic (Gauines, 2002).

With the COVID-19 pandemic, school leaders were also required to figure out how to support learners and their families (Harris, 2020; Hayes et al., 2021). The reason behind this call is that influential leaders should not only concentrate on learning experiences (Koehn, 2020) but also be prepared to cope with the inevitable social, cultural, economic, technological, bureaucratic, and political challenges that can hinder their reform efforts (Cunningham &Cordeiro, 2013). To be effective in the crisis (Spyropoulou & Koutroukis, 2021),collaborating with other school leaders enabled school leaders to mitigate the leadership crisis (Anderson et al., 2020).

School leaders are expected to be great managers and excellents leaders in a period when the pace of change has accelerated (Pollock, 2020) and when the call for organisation's resilience is at its peak (Hemmer &Elliff, 2020). Thus, at the school reopening, several measures, including social distancing, maintaining emotional stability and improved communication (Dirani et al., 2020), and avoiding social isolation (Pinar et al., 2000) were to be put in place to cope with the changes in the learning landscape (Thornton, 2021; Mutiu & Dumulescu, 2021). To be successful in this, school leaders had to shift the focus on people, human resources, mentoring, learning, and healing emotions (Fleming & Millar, 2019).

It was also critical to track students' re-enrollment as soon as schools resume operations and determine the reasons for absences. This was meant to establish early-warning systems to identify students in danger of dropping

out (United Nations Children's Fund, 2022). In addition, school leaders were expected to embrace and adjust to curricula and pedagogical practices as necessary (Pollock, 2020). Equally important was to think quickly, boost teamwork, and build trust because some parents would worry about health hazards and thus discourage their children from returning to school (Kim et al., 2021).

School leaders were indeed expected to come up with common crisis management strategies (Demiroz & Kapucu, 2012) and uplift their social, emotional, and academic skills to foster safe and supportive learning environments. This is essential because good leaders should always be ready to learn (Honoré & Robison, 2012). In this vein, Professional Learning Communities (PLC) have been vital (Luyten&Bazo,2019).

The term "Professional learning community" stands for "a group of educators, prepared and supported to work regularly and collaboratively to develop the necessary knowledge and skills to improve effectiveness and student outcomes" (Townley, 2020).It should be understood that PLC refers to the group of people who share and critically discuss reflective teaching practices, collaboration, inclusiveness, and continuous improvement. In this way, PLC detains five characteristics: (i) sharing of values and vision, (ii) collective responsibility, (iii) collaborative teachers, (iv) supported and shared leadership and (v) supportive structure. These features have made the PLC model multidimensional due to its ability to gauge individual, interpersonal, and organizational capacity (Ismail et al., 2020).

In Rwanda, PLCs are also used for professional development in education. For school leaders, PLCs are organized at the local administrative entity known the sector whereby Sector Education Inspector (SEI) becomes the moderator of the session. PLCs are also organized at for teachers at the school levels whereby the School Based Mentor (SBM) works hand in hand with the school administration (Head teacher or the deputy head teacher in charge of studies) in all technical and logistical aspects on the matter (Uworwabayeho et al., 2020).

PLC works as "vehicles to share ideas about standards-based instruction and assessment to "improve learning opportunities and outcomes for students" (Townley, 2020). PLC helps educators to shift from the view of the classroom or school as an island, isolated and disconnected, rather, to have an expounded view of their classroom/school and compare it with the provincial or national standards (Townley, 2020). PLC is indeed considered as a learning community, a learning community network, or community of practitioners (Ismail, Ishak, & Kamaruddin, 2020). This is true in the sense that Professional learning communities (PLCs) enhance professional expertise and practices for the continuous improvement of schools (Liu et., 2022).

During the COVID-19 pandemic, PLCs were recognized to have significantly facilitated the transition to online teaching (Alsaleh, 2021). It is also documented that during the COVID-19 pandemic PLC approach allowed the faculty to move from simply learning online teaching tools to engaging in meaningful discussions around online teaching

pedagogy and improving student learning (Tucker,2021). Such discussions and exchanges for school leaders resulted in the ability to tackle challenges, share expertise, and improve learning confidence and leadership skills (Eddy et al., 2021).

Methodology

The present study used an explanatory sequential mixed-method research design (Creswell, 2012; Ivankova & Stick, 2007; Creswell & Clark, 2011). From a target of 419 schools, multi-stage cluster sampling, judgmental sampling, and simple random sampling techniques (Amin, 2005) were used to arrive at a sample of 54 secondary schools, urban and rural combined. The school sampling per district was indeed motivated by factors such as accessibility and availability of the school leader to participate in the survey during the determined data collection period. Table presents the names of districts and the number of schools covered:

Table 1:

Target and sampled secondary schools

#	District	Total schools	Sampled secondary schools
1	Kirehe	63	9
2	Gatsibo	96	15
3	Kicukiro	37	3
4	Rubavu	57	7
5	Nyaruguru	50	5
6	Burera	53	6
7	Rutsiro	63	9
	Total	419	54

Source : Ministry of Education (2022)

To mitigate the threats to external validity of the findings to this study, all respondents in this study were school leaders (headteacher or deputy headteacher in charge of study). To collect data needed in this study, two main instruments were designed. The first one was a questionnaire survey in a Likert scale format (Phellas et al, 2012; Cohen et al., 2007), which was addressed to 54 school leaders. The second tool was an interview guide that aimed to help in the collection of qualitative data to complement the quantitative data (Orodho et al., 2016a). This one was addressed to 7 key informants (selected school leaders),one per District; implying that,61 people contributed to this study.

The ethical clearance and a research permit were obtained from the Research and Innovation Unit of the University of Rwanda College of Education. Four research assistants (including 2 junior academic staff and two postgraduate students, females and males mixed) were trained on the tools and data collection techniques, including probing techniques during interview. Research instruments were piloted in one selected school in Kicukiro District and

revised as required. These instruments were judged reliable in the sense that the computed reliability index (Cronbach's alpha) was 0.81, which was above the set 0.75. All ethical protocols, such as informed consent, voluntary participation, and anonymity, were observed throughout the study. Quantitative data were captured into Statistical Package for Social Sciences version 21, analysed using descriptive statistics (percentage and mean scores) and reported using tables (Orodho et al., 2016b).Qualitative data were transcribed, arranged into themes created around the research objectives and reported in narrative form.

Findings

School leaders' views on strategies used to minimise school losses

At the school reopening, reviving students' learning mood and sustaining it required coordinated efforts and specific actions. Table 2 presents the frequency of strategies adopted to minimise losses in students' learning due to the COVID-19 pandemic.

Table 2:

Frequency of strategies used by school leaders to minimise school losses due to COVID-19

SN	Statements	Never (1) % (n)	Rarely (2) % (n)	Sometimes (3) % (n)	Often (4) % (n)	Very often (5) % (n)	Mean score
1	Remedial and catch-up exercises	4(2)	11(6)	11(6)	46(25)	28(15)	3.8
2	Additional homework	4(2)	13(7)	9(5)	50(27)	24(13)	3.8
3	Extra teaching/learning hours	6(3)	11(6)	20(11)	44(24)	19(10)	3.6
4	Accelerated teaching	2(1)	19(10)	19(10)	50(27)	10(6)	3.5

Table 2 presents the strategies adopted at the school opening to ensure that learning is revived, and long-term learning losses are minimised. The data reported in Table 2 indicates that nearly a wide range of strategies were implemented (M ≥ 3.5) ; an indication that school leaders were really concerned about the negative impact that the prolonged school closure might have hard on students. This aligns with the assertion from Aagaard and Earnest (2021) that globally, school leaders were expected to devise strategies to successfully sustain learning and avoid long-term losses to children's learning at the school reopening. In terms of predominance, it is observed that remedial and catch-up exercises as well as additional homework were predominantly used as their mean score was relatively higher (3.8). The insight here is that these two strategies were predominant based on their familiarity, ease of implementation and expected positive impact on students' learning outcomes. This guess might be true because accelerated learning that gained less weighted mean (3.5), if solely chosen, might leave slow and struggling learners behind, which is not the mandate of education. This is in tandem with Goinguard et al. (2020) view that a school leader's critical assessment of the situation is essential to ensuring smooth learning continuity.

The contribution of Professional Learning Communities in the school reopening journey

Surveyed schools were asked to rate the extent to which they agree with the proposed statements aligned with the contributions that Professional Learning Communities might have made in the school reopening journey. Responses are presented in Table 3.

Table 3 :

The role of Professional Learning Communities in the school reopening journey

SN	Statement	Strongly disagree (1) %(n)	Disagree (2) %(n)	Neutral (3) %(n)	Agree (4) %(n)	Strongly agree (5) %(n)	Mean score
1	Follow up on teacher preparedness and up to datedness	2(1)	17(9)	7(4)	50(27)	24(13)	3.77
2	Tracing continuing students and accommodating the new P1 Cohort	2(1)	9(5)	6(3)	48(26)	35(19)	4.05
3	Strategies to minimize school losses and dropout	2(1)	13(7)	7.3(4)	46.2(25)	31.4(17)	3.9
4	Safety measures at school	2(1)	15(8)	9(5)	44(24)	30(16)	3.85
5	Social and emotional support	4(2)	11(6)	9(5)	56(30)	20(11)	3.75

As indicated in Table 3, School leaders perceived that Professional Learning Communities (PLC) have been helpful in enabling school leaders to cope with the school reopening demands. It is observed, for instance that school leaders unanimously agreed that strategies to (i) the follow-up on teacher preparedness and up to datedness, (ii) Tracing continuing students and accommodating the new P1 Cohort, and (iii) strategies to minimize school losses and drop out were much discussed and shared in the Professional Learning Communities. Though the safety measures at school as well as social and emotional support roles, could vary from one school to another -as some informants reviewed during interview-, still, PLC has been insightful into what should be done and how.

Asked how really PLC contributed to tracing continuing students and accommodating the new P1 Cohort worked, one informant said:

"….*in PLC, that is where we used to deliberate about what works and why but also share experiences…. for instance, it is where we agreed upon that working alone in the back to school would be impossible. Then we resolved to engage local leaders at village, cell and sector levels*".

To strengthen the perception of the role of PLC, another key informant communicated that, "*it is through PLC that s/he got insight into the strategy to make field visits in targeted families, especially those with students at risk of dropping out. "When parents would see me coming, they would quickly call their children to come and greet me, altogether converse and commit on the back to school*" the key informant added.

These findings are consistent with Spyropoulou and Koutroukis (2021), whose previous studies on the role played by school head teachers during reopening of schools amid the COVID-19 pandemic indicated that collaborative efforts and community engagement were essential to ensuring that the situation returned to normalcy in schools after prolonged school closure. This is indeed emphasized by Eddy et al. (2021) who affirmed that PLC during COVID-19 times helped a lot to tackle challenges, share expertise, improved learning confidence and leadership skills among school leaders.

Conclusion and recommendations

The present study sought to explore the extent to which Rwanda's School leaders were involved in minimizing the learning losses and mitigating the crisis at the school reopening after school closure imposed by COVID-19.

While COVID-19emerged as a global threat and destabilized all spheres of human lives, including education, various ICT-led means were put in place to ensure learning continuation. Nonetheless, considering the inequity of access to the used means and limited teachers and school leaders following up on individual learners in their homes, at the school reopening, it was imperative to fix issues to do with learning losses. That is how strategies such as remedial learning and additional homework assignments were prioritized to benefit those learners who had been held back by the school closure and had not benefited from the remote learning. Indeed, the school closure being a unique lifetime global crisis, the back-to-school journey was full of uncertainties.

It is on this ground that the present paper concludes that going back to school could not be a success unless combined efforts are engaged. In this perspective, the current paper advocates for strengthening Professional Learning Communities (PLCs) for school leaders because PLCs promote collaboration, collective growth, joint work, and resilience. In addition, it alleviates individual fear and uncertainty. In the usual teaching times, PLCs should indeed remain a forum for network to fetch together the way out of faced individual or collective challenges as well as a forum for collective planning and professional growth. Further studies could explore the perceptions of teachers as well as those of the school community vis-à-vis the effectiveness of school leaders in fulfilling their core responsibilities in the back-to-school journey after COVID-19 pandemic.

References

Aagaard, E. M. &Earnest, M.(2021). Educational leadership in the time of a pandemic: Lessons from two institutions. FASEB *BioAdvance;*3:182–188. https://doi.org/10.1096/fba.2020-0011

Akayezu, J. D. (2021). Imibare irivugira! 50% by'abanyeshuribakurikiyeamasomohifashishijweradiyonaTeleviziyo [Facts speaks out! 50% of the students followed radio and Television learning programmes]. In *Igihe.com* of January 24th, 2020, Available online on https://igihe.com/amakuru/article/imibare-irivugira-abanyeshuri-50-bakurikiye-amasomo-hifashishijwe-radiyo-na-televiziyo

Alsaleh, A. (2021). Professional learning communities for educators' capacity building during COVID-19: Kuwait educators' successes and challenges. *International Journal of Leadership in Education*, DOI: 10.1080/13603124.2021.1964607

Amin, M. E. (2005). *Social Science Research: Conception, Methodology and Analysis*. Kampala: Makerere University.

Ampofo, Y. S., Bizimana, B., Mbuthi, J., Ndayambaje, I. Ogeta, O. & Orodho, A. J. (2014). Information Communication Technology Penetration and its Impact on Education: Lessons of Experience from Selected African Countries of Ghana, Kenya and Rwanda. *Journal of Information Engineering and Applications*, 4(11), pp. 225-256

Anderson, E. Hayes, S. & Carpenter, B. (2020). Principal as caregiver of all: responding to needs of others and self. *CPRE Policy Briefs*. Retrieved fromhttps://repository.upenn.edu/cpre_policybriefs/92

Benigno, V., &Trentin, G. (2000). The evaluation of online courses. *International journal of Computer Assisted Learning*, 16(3), 259-270.

Bolden, R. (2011). "Distributed leadership in organisations: a review of theory and research", *InternationalJournalofManagementReviews*,13 (3), pp.251-269.

Borkowski, A.; Ortiz, C., Javier, S.; Bundy, D. A. P.; Burbano, C.; Hayashi, C.; Lloyd-Evans, E.; Neitzel, J.; Reuge, N. (2021). COVID-19: Missing More Than a Classroom. The impact of school closures on children's nutrition, *Innocenti Working Papers,* no. 2021-01, UNICEF Office of Research - Innocenti, Florence

Brodie, K. &Chimhande, T. (2020). Teachertalk in professional learning communities. International Journal of Education in Mathematics, Science and Technology (IJEMST), 8(2), 118-130.

Burwell, T., & Terry, W. (2021). "The Impact of COVID-19 on School Leadership, E- Learning, and Student Achievement in the United Arab Emirates'." *International Studies in Educational Administration* (Commonwealth Council for Educational Administration & Management (CCEAM)) 49 (1): 94–100

Cohen, L., Manion, L., & Morrison, K. (2007). *Research Methods in Education*, 6th Ed., NewYork: Routledge.

Creswell, J. W. (2012). *Educational Research: Planning, Conducting, and Evaluating Quantitative and Qualitative Research*, 4th Ed., Boston: Pearson.

Creswell, J. W., & Clark, V. L. P. (2011). *Designing and conducting Mixed Methods Research* (2nd ed.). California: SAGE Publications, Inc.

Cunningham, W. G., & Cordeiro, P. A. (2013). *Educational leadership: A bridge to improved practice*. Prentice-Hall.

Demiroz, F., &Kapucu, N. (2012). The role of leadership in managing emergencies and disasters. *European Journal of Economic and Political Studies*, 5, 91–101.

Dirani, K. M., Abadi, M., Alizadeh, A., Barhate, B., Garza, R. C., Gunasekara, N., Ghassan Ibrahim, G. &Majzun, Z.(2020). Leadership competencies and the essential role of human resource development in times of crisis: a response to Covid-19 pandemic. *Human ResourceDevelopment International,* 23, 380–394.DOI:10.1080/13678868.2020.1780078

Eddy, P.L., Macdonald, R.H. & Baer, R.M.D. (2021). *Professional development during a crisis and beyond: Lessons learned during COVID*, https://doi.org/10.1002/cc.20477

Fleming, K., & Millar, C. (2019). Leadership capacity in an era of change: the new-normal leader. *Journal Of Organisational Change Management*, 32 (3), 310-319. https://doi.org/10.1108/JOCM-05-2019-492

Harris, A. & Jones, M. (2020). COVID 19 – school leadership in disruptive times. *School Leadership & Management*, 40 :4, 243-247, DOI: 10.1080/13632434.2020.1811479

Harris, A. (2020). COVID-19 – school leadership in crisis?*Journal of Professional Capital and Community* 5(¾), 321-326

Hayes, S. D., Flowers, J., & Williams, S. M. (2021). "Constant Communication": Rural Principals' Leadership Practices During a Global Pandemic. *Frontiers in Education*, 5.

Head, B. W., & Alford, J. (2015). Wicked problems: Implications for public policy and management. *Administration & society*, 47(6), 711-739

Hemmer, L., &Elliff, D.S. (2020), "Leaders in action : the experiences of seven Texassuperintendents before, during, and after Hurricane Harvey", *Educational Management Administration and Leadership*, 48 (6), pp. 964-985.

Honoré, R. L., &Robison, J. (2012). Leadership in the New Normal : A Short Course. Acadian House Publishing, 183.https://doi.org/10.3389/feduc.2020.618067

Huber, S. G. (2021). "Schooling and Education in Times of the COVID-19 Pandemic: Food for Thought and Reflection Derived from Results of the School Barometer in Germany, Austria and Switzerland." *International Studies in Educational Administration* (Commonwealth Council for Educational Administration & Management (CCEAM)) 49 (1): 6–17 Iraq. Princeton, NJ : Princeton University Press

Ismail, K., Ishak, R. & Kamaruddin, S.H. (2020). Professional Learning Communities in Malaysian Schools: A Contemporary Literature Review. *Universal Journal of Educational Research*, 8 (4): 1535-1541, 2020 http://www.hrpub.org DOI: 10.13189/ujer.2020.080447

Ivankova, V. N., & Stick, L. S. (2007). Students' Persistence in a Distributed Doctoral Program in Educational Leadership in Higher Education : A Mixed Methods Study. *Research in Higher Education,* 48 (1), 93-135.

Kim, J., Rose, P., Tiruneh, D.T., Sabates, R. &Woldehanna, T. (2021). *'Learning inequalities widen following covid-19 school closures inEthiopia'*, RISE Programme, 4 May 2021, accessed 22 March 2022.

Koehn, N. F. (2020). *Real leaders are forged in crisis*. Harvard Business Review (website).

Kuhfeld, M., Soland, J., Tarasawa, B., Johnson, A., Ruzek,E., & Jing Liu. (2020). *Projecting the potential impacts of COVID-19 school closures on academic achievement.* (EdWorkingPaper: 20-226). Retrieved from Annenberg Institute at Brown University: https://doi.org/10.26300/cdrv-yw05

Kwatubana, S. &Molaodi, V. (2021). Leadership Styles that Would Enable School Leaders to Support the Wellbeing of Teachers during COVID-19. Sofia: *Bulgarian Comparative Education Society*, 19, 106-112. https://files.eric.ed.gov/fulltext/ED614047.pdf

Little, M. E. (2020). Collaboration and Connections among Middle School Teachers of Mathematics: Enhancing Efficacy through Professional Learning Communities*, Southeastern Regional Association of Teacher Educators* (*SRATE) Journal*, 29 (1).

Liu, S., Lu, J. & Yin, H. (2022). *Can professional learning communities promote teacher innovation? A multilevel moderated mediation analysis. Teaching and Teacher Education*, 109, ISSN 0742-051X, https://doi.org/10.1016/j.tate.2021.103571.

Luyten, H. & Bazo, M. (2019). Transformational leadership, professional learning communities, teacher learning and learner centred teaching practices ; Evidence on their interrelations in Mozambican primary education,*Studies in Educational Evaluation*,60.

Mayer, B. W., Moss,J. &Dale, K. (2008).Disaster and Preparedness: Lessons from Hurricane Rita.*Journal of Contingencies and Crisis Management*, https://doi.org/10.1111/j.1468-5973.2008.00531.x

Ministry of Education (2022). Education statistics yearbook 2021-2022. Kigali.

Ministry of Education (2020). *Keeping the Doors Open for Learning : Response Plan of Ministry of Education to the COVID-19 Outbreak*. Kigali: Rwanda.

Ministry of Education (2018). *Education Statistics Yearbook*, Kigali : Ministry of Education.

Ng, P.T. (2021). "Timely Change and Timeless Constants : COVID-19 and Educational Change in Singapore." *Educational Research for Policy & Practice*, 20 (1) : 19–27. doi :10.1007/s10671-020-09285-3.

Orodho, J.A., Nzabalirwa, W., Odundo, J. Waweru, P. N., &Ndayambaje, I. (2016a). *Quantitative and Qualitative Research Methods : A step by Step Guide to Scholarly Excellence*, Nairobi: Kanezja Publishers.

Orodho, J.A., Ampofo, Y.S., Bizimana, B. &Ndayambaje, I. (2016b). *Quantitative Data Management : A Step by Step to Data Analysis Using Statistical Package for Social Sciences (SPSS) for Windows Computer Programme, (1st Ed.).* Nairobi : KanezjaHappyland Enterprises. ISBN : 978-9966-7350-3-8

Phellas, C.N., Bloch, A., & Seale, C. (2012). "Structured methods: Interviews, questionnaires and observation". In Seale, C. (Eds), *Researching society and culture*, 3rd Ed., pp. 182-205, London : Sage Publications.

Pollock, K. (2020). "School Leaders' Work During the COVID-19 Pandemic: A Two-Pronged Approach." *International Studies in Educational Administration* (Commonwealth Council for Educational Administration & Management (CCEAM)) 48 (3): 38–44.

REB/Rwanda Education Board (2020). *REB remote learning program*, weekly report : 14-16 April 2020, Kigali

Schleicher, A. (2020), "*International education and Covid-19 – insights from TALIS*", 25 March,   Teacher, available at: https://www.teachermagazine.com.au/columnists/andreas- schleicher/ international-education-and-covid-19-insights-from-talis.

Shepard, L.A., Diaz-Bilello, E., Penuel, W.R., & Marion, S.F. (2020). *Classroom Assessment Principles to Support Teaching and Learning*.Boulder, CO: Center for Assessment, Design, Research and Evaluation, University of Colorado.

Smith, L., & Riley, D. (2012). School leadership in times of crisis. *School leadership & management*, 32(1), 57-71.

Spyropoulou, E., &Koutroukis, T. (2021). *Managing open school units amid COVID-19 pandemic through the experiences of greek principals. Implications for current and future policies in public education. Administrative Sciences*, 11(3), 70. Accessed at https://doi.org/10.3390/admsci11030070

Thornton, K. (2021). Leading through covid-19 : New Zealand secondary principals describe their reality.*Educational Management Administration & Leadership*, 49(3), 393–409.https://doi.org/10.1177/1741143220985110

Townley, A. L. (2020). Leveraging Communities of Practice as Professional Learning Communities in Science, Technology, Engineering, Math (STEM) Education. *Education Sciences* (10), 8: 190. https://doi.org/10.3390/educsci10080190

Tucker, L. (2021). Professional Learning Communities as a Faculty Support During the COVID-19 Transition to Online Learning, *Online Journal of Distance Learning Administration*, 24, 1.

Tzeng, G., Chiang, C., & Li, C. (2007). Evaluating intertwined effects in e-learning programs: A novel hybrid MCDM model based on factor analysis and DEMATEL. *Expert systems with applications*, 32, 1028–1044.

UNESCO (2020). *UNESCO-UNICEF-World Bank joint survey*, May–June 2020. Available at http://tcg.uis.unesco.org/survey-education-covid-school-closures.

UNICEF/United Nations Children's Fund (2020). *Education Disrupted: The second year of the COVID-19 pandemic and school closures,* UNICEF, New York.

Upoalkpajor, J-L N. &Upoalkpajor, C.B. (2020). The Impact of COVID-19 on Education in Ghana. *Asian Journal of Education and Social Studies*, 9 (1), pp. 23-33.

Uworwabayeho, A., Flink, I., Nyirahabimana, A. Peeraer, J., Muhire, I. &Gasozi, N.A. (2020). Developing the capacity of education local leaders for sustaining professional learning communities in Rwanda, Social Sciences & Humanities Open,2 (1),100092, ISSN 2590-2911, https://doi.org/10.1016/j.ssaho.2020.100092. (https://www.sciencedirect.com/science/article/pii/S2590291120300814)