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## Remote Online Collaborative Learning for Knowledge Co-Creation Through WhatsApp in an ODL Programme

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**Abstract:** Open education fosters accessible and continuous learning by enabling individuals to engage in learning activities anytime and anywhere, through the use of social networking sites. This allows mature, working learners or professionals to construct their knowledge through collective intelligence that is associated with self-directed learning and socio-constructivism. Viewing the use of WhatsApp for ubiquitous learning through an adult education perspective may enable learners to actively engage in collaborative online learning and enhance their understanding through knowledge construction. This is based on the Pedagogy, andragogy, and Heutagogy (PAH) Continuum. The purpose of this study was to explore lecturers' perceptions of the use of WhatsApp for the co-creation of knowledge by learners. Interview data from 15 contingent lecturers using WhatsApp for the co-creation of knowledge among learners in an undergraduate programme shed light on both the advantages and obstacles faced, which might give insights to other lecturers of emerging open education institutions in the developing world where open education is the driving force for liberalizing education. A qualitative interpretive approach was used for data analysis. This study found that WhatsApp remote online collaborative learning bridges the gap between formal and informal learning and enriches the quality of learner-led content that is more contextualised and relevant for the professional growth of learners in

open education. It was also found that learners experience emancipatory learning through collaboration and interactivity based on the student-centeredness approach. However, the major challenges were a lack of accountability of learners due to free-riders of the generated knowledge, and their inability to use OERS for self-directed learning and to respect the ethics of online media use. The study strongly recommends a review of the ODL institutional principle of providing one prescribed reading material for each module.

**Keywords:** collective intelligence, free-riders, perceptions, seamless learning, social networking sites

## Introduction

Open education is not only about making learning content available for free to learners (Cormier, 2013), but also learning should incorporate various theories of learning such as cognitivism, behaviourism, socio-constructivism, connectivism, heutagogy, rhizomatism, and navigationism (Cormier, 2011; Siemens, 2005; Tsipursky, 2013). All these theories support the belief that there is a transformative symbiosis between learning and innovative learning tools (Aparicio-Gómez et al., 2024). With the advent of Web 2.0 technologies or social media (Delello et al., 2015; Raut & Patil, 2016), Kop (2011) pointed out that learners are given the opportunities to be actively engaged with the freely available content and resources in a creative way to enhance their learning through self-directed learning as well as through social interactions with other learners and the tutor. Indeed, adult learning is a lifelong process whereby there is the transformation of knowledge through the transformation of mature and working learners' experience (Abedin et al., 2021). Digital technologies provide innovative learning opportunities to online learners. Furthermore, through the use of social media like WhatsApp, students can actively contribute to both the creation and outcome of their learning experience (DeRosa, 2019; Orr et al., 2018). At the Open University of Mauritius (OUM), the Blackboard is used as the Learning Management System for providing information about the rules and regulations of studies, publishing the provisional examination timetables and results, e-library services, learning guides, assignment submission procedures, and guidelines. Some lecturers use online quizzes and MCQs as online tools for learning. It is rather limited to information repositories, and therefore, the platform is inflexible and tutor-oriented (McCarroll & Curran, 2014). The learners are only "lurkers" (Krasny et al., 2018). There is, therefore, a purely knowledge instruction, restrictive and exclusionary. There are no activities that encourage collaborative learning (Perveen, 2016), nor any posts with feedback or comments that promote interactions and interactivity among the learners and the tutor; no social presence of the learners or the tutors to create a learning community that allows for the creation of OERs on the platform. In this vein, Cortes and Lozano (2014) assert that there should be a decentralisation of knowledge in the context of a connectivist learning environment of open universities.

## Research Problem

The delivery policy of open and distance education is to provide the registered learners with one prescribed manual and the examination questions come mandatorily from it. So, it is only limited knowledge hoarding and sharing and much knowledge hiding (Silva de Garcia et al., 2020). This is contradictory to the concept of open learning, which implies that learning should be interactive, dialogic, and interactive (Cormier, 2013; Garnett & Ecclesfield, 2011). Giving learners access to education is not enough. Every learner should also feel valued and heard (Kolodny, 2017) in the sense that the university should provide the required learning environment in which the learners' voices and choices are heard and taken into consideration in an interpretive community of learners (Bradley, 2015). By co-creating

knowledge or OERs through the use of social media, the learners will feel no more isolated. The integrating phase of Boyer's (1997) model of open scholarship posits that learners should interpret learning by co-creating it, and they should take control of their learning (Iversity, 2014). So, the study may help to bring insights into the creation of knowledge by learners through their participation on WhatsApp. Though the literature confirms the success of using social media to promote content generation by learners, there may be several challenges that arise in the process. Previous studies on the use of social media in Mauritian higher education institutions have focused on several specific areas. These include the utilisation of a Learning Management System, the engagement of lecturers on social media platforms the intersection of youth, gender, and social media usage, the influence of online social media on the younger generation, and the perceptions and experiences of students utilising interactive social media tools within higher education settings (Roopchund et al., 2019; Rambaree et al., 2020). This current study attempted to shed light on the opportunities and challenges of the social media use by learners but from the perspectives of their lecturers. This perspective may help the reader to have a deeper understanding of the use of social media from the lecturers who have witnessed the students' experiences of social media. Above all, the challenges could be more significant in this context where it is an introduction of an inclusive approach to learning that necessitates some technical, contextual, intellectual as well as cultural requirements that may not exist actually in ODL institutions.

### **Research Focus**

The study investigated the impact of co-creation through social media on knowledge acquisition and knowledge participation. Through empirical analysis, the study sought to characterise the mechanisms by which social media platforms enable users to collaboratively generate and exchange knowledge (Sfard, 1998). Ultimately, this research aimed to advance the interdisciplinary understanding of the dynamics of knowledge-sharing in online environments. By so doing, it may help us examine the challenges that may crop up in the process.

### **Research Aim and Research Questions**

The purpose of this study was to explore lecturers' perceptions of the use of WhatsApp for the co-creation of knowledge by learners. It attempted to answer to the following research question:

What are the opportunities and challenges of using WhatsApp for knowledge co-creation through online collaborative learning?

### **Literature Review**

Fundamentally, the three models of teaching and learning are distinguished. The concepts of pedagogy, andragogy, and heutagogy occur in a continuum as put forward by Garnett (2013). Pedagogy is the art and science of teaching (Uday, 2019). Referring to the Pedagogy of the Oppressed by Paulo Freire, pedagogy is defined in terms of adult learners' negotiation between opposed principles, possibilities for ethical action, and antinomies. The opposites may include *inter alia*, proximity versus distance, constraints versus freedom, protection versus exposure, and present versus future (Friesen & Su, 2023). Furthermore, pedagogy is the teacher's mastery of a particular subject and the most effective methods that they may use to teach it (Bashir et al., 2018; Shah & Campus, 2021). Pedagogy 2.0 refers to the teaching methods used by lecturers to facilitate the learners' learning, whatever their age, and who are juggling work, study, and technology. It allows the integration of web content into the teaching and learning process (Halupa, 2015). Andragogy, on the other hand, is the art of helping adults to learn (Knowles, 1970). Ferreira and MacLean (2017) found that when effective teaching methodology with innovative use of e-tools in online teaching and learning context, lecturers would instil a sense of

responsibility in learners for their learning, and, therefore, the latter would play a more active and engaging role in developing their learning potential by adopting and applying the uses of technology and social networking systems. Indeed, Knowles' Andragogical Model provides practical applications, guidelines, and techniques for lecturers to incorporate adult learning principles into the programme structure, online delivery, and mentoring of online courses by the programme managers. However, El-Amin (2020) states that although andragogy is a novel teaching and learning mode as it promotes academic development, improves instructional techniques, and enhances critical thinking through social learning possibilities and human connectivity, little is known about the level of satisfaction of adult learners with andragogy. So, there is not a universally applicable theory that can adequately address the diverse needs and preferences of this demographic. Heutagogy is a continuum of the principles and assumptions of pedagogy and andragogy. It is a holistic framework for creating twenty-first-century self-determined learners through digital technologies (Blaschke & Hase, 2015). The most appropriate blended learning approach using the heutagogical framework would include the following essential elements: "Explore, Create, Collaborate, Connect, Share, and Reflect" (Blaschke & Hase, 2015, p. 32). When an undergraduate midwifery programme was conducted using this framework in Australia, it was found that Heutagogy assists in empowering adult learners to participate in their education as they were able to be self-determined in their learning approach and they could evaluate their learning needs (Hainsworth et al., 2022). The principles of these three models of learning are illustrated in the Table 1.

**Table 1**

*Pedagogy 2.0, Andragogy and Heutagogy*

| <b>Pedagogy 2.0</b>                                                             | <b>Andragogy</b>                                                              | <b>Heutagogy</b>                                                                                                   |
|---------------------------------------------------------------------------------|-------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|
| The content is generated by the learner and the teacher.                        | The self-directed learning.                                                   | The learners gain knowledge on how to acquire new skills and information.                                          |
| The curriculum is open as the learner can give their input.                     | The adult learners bring their life experiences to the learning process.      | The curriculum is flexible.                                                                                        |
| Learners have numerous types of communication with their peers and the teacher. | The readiness of the adult learners to learn.                                 | There is a learning contract between the learners and the teacher and among the learners.                          |
| The learning process is contextualised and reflective.                          | Adult learners are intrinsically motivated.                                   | The learning is interdisciplinary.                                                                                 |
| Formal and informal resources are used.                                         | The problem-solving learning is the preferred teaching and learning strategy. | The learners' voice and choice in the learning process.                                                            |
| Scaffolding is the guiding principle in the learning process.                   | The self-concept of the learner.                                              | The learning is focused on the process rather than content.                                                        |
| Learning is authentic and experiential.                                         |                                                                               | The learning may happen on the go and resources such as OERs, MOOCs, and multimedia exist to be used for learning. |
|                                                                                 |                                                                               | The learners to reflect on the learning process (metacognition)                                                    |
|                                                                                 |                                                                               | It facilitates lifelong learning.                                                                                  |

*Source:* Blaschke and Hase (2015); Ferreira and MacLean (2017); Shah and Campus (2021); Uday (2019).

Social media facilitates discussion, participation, co-creating, editing, transforming, and the exchange of ideas among users within online communities, ultimately elevating the learning experience (Rdouan et al., 2013; Romero, 2014). However, there are many challenges to the use of social media in open learning. Dron and Anderson (2014) found that there is the reluctance of learners to share through the social networking site since the relationships may be rich, but complex depending on the nature of the ties; the knowledge or content generated or the artefacts created rarely go beyond the network; some learners may not have network literacy and efficacy to know how to share; there may also the risk of not respecting the rule-bound between professional and personal fields. Raut and Patil (2018) added that private and personal disclosures may be compromised. Since participation in social network sites is time-consuming for adult learners, they may perceive using social media for the co-creation of knowledge as an unnecessary time commitment (Zaugg et al., 2011). In addition, learners often struggle with trusting feedback from their peers on social media, adapting to new tools, and navigating ownership concerns when co-creating content in collaborative spaces (Melnikova, 2018). Krasny et al. (2018) maintain that learners from the developing world find it difficult to use and reuse unfamiliar Western-based course content or any other content that is culture-bound and that learners in some countries like China and Iran who take online courses from foreign open universities may have blocked access to social media. Protecting the anonymity of learners on the social network site is very difficult and many learners lack information about open licenses (Okada et al., 2012). These challenges are context-bound and they may not be the same in Mauritius. It is very difficult protecting the anonymity of learners on the social network site (Melnikova, 2018). In the same vein, Stanciu et al. (2012) found that the absence of personal data security policies may leave learners exposed to hackers, spam, malware, and phishing among Romanian learners, following the administration of a survey.

Learners learn effectively while interacting. This is the basis of Bandura's (1977) social learning theory. Also, the situated learning theory propounds that learners choose, analyse, organise, and communicate information to co-create knowledge, through simulations and interactive podcasting (Tsipursky, 2013). Furthermore, the social media learning framework confirms the use of social media tools for the creation of OERs by learners. Middleton and Beckingham (2015) state that social media for learning promotes social and academic inclusion by promoting a sense of belonging and collegiality, learning across and through rich, multiple media; it promotes self-expression, self-regulation, self-efficacy, and confidence; promoting collaborative and critical learning with a peer in self-organising networks that are knowledge constructing.

Online teaching cannot take place in a vacuum, nor be viewed from the perspective of traditional teaching. The extensive research conducted on online teaching and the use of social media for co-creation indeed provides an understanding of the topic under study. However, the possibility of knowledge co-creation in the context of remote online collaborative learning through WhatsApp in the ODL context has not been sufficiently studied. It is of significant importance that this particular study be done to understand this phenomenon from the specific context of Mauritius as the use of social media by a particular community of learners in an ODL programme would provide better insights to those involved in the context.

## **Materials and Methods**

According to Cohen et al. (2018) the research design is the plan that is used to approach, operationalize, and investigate the research problem. It is a blueprint that describes how the researcher

would do the data collection and analysis to provide valid answers data and analyse it to provide valid answers (Faloye et al., 2020). In the current study, a qualitative research design was adopted as it studies how people give meaning to their lives under real-world conditions (Yin, 2011). This design is the most suitable as the study focuses on the uses of WhatsApp as an instructional tool by the learners and lecturers in the B Ed (Hons) Early Childhood Education and Care programme in the ODL context. The perceptions of the users are scrutinised about the opportunities and challenges of using WhatsApp in their undergraduate study.

### ***Sample and Participants***

A non-probability sampling was used in this study. Since the study aimed to gauge the perceptions of the lecturers about the use of WhatsApp by learners in this particular programme, fifteen lecturers were intentionally selected based on their unique perspectives on the phenomenon under study, rather than through random selection (Copley, 2022). The selected participants were practising lecturers who have been interacting with the learners using WhatsApp as a social media tool to learn the module. They were the key informants about the phenomenon under study as they can reflect upon and interpret the social, cultural, and learning environment and the actions of learners with WhatsApp in its application to teach in the context of ODL (Breuer et al., 2018).

### ***Instrument and Procedure***

For this study, the semi-structured interview was used as an interpretive approach to the gathered information from the participants was adopted. Since it was a small sample, an in-depth interview was deemed appropriate to explore what was meaningful to the participants, what they experienced and knew about the topic, and how they felt about the opportunities and challenges of their learners using WhatsApp as a learning tool (Cohen et al., 2018). Indeed, Bhat (n.d.) asserts that the interview as a research instrument allows the researcher to gather first-hand information from each key informant individually. This allows the researcher to gather and use thick descriptions in analysing and interpreting the gathered information and hence make the findings more trustworthy.

### ***Data Analysis***

Qualitative data analysis focuses on in-depth, rich, subjective information and meanings of the participants in a specific context (Cohen et al., 2018). The researcher had to move from the gathered information to understand, explain, and interpret the topic of study (Taylor & Gibbs, 2010). Developing themes is specifically appropriate for this process and the reflexive thematic analysis was used to analyse the information. Clarke and Braun (2017) propound that Reflexive thematic analysis makes the identification and analysis of patterns or themes easier. It reflects the researcher's interpretive analysis of the data gathered based on the qualitative dataset, the theoretical assumptions of the analysis as well as the researcher's analytical skills and resources (Braun & Clarke, 2019). This results in no two researchers having the same patterns or themes when they intersect these three criteria, thus increasing the trustworthiness of the findings of the study. The researcher followed the six-phase analytical process proposed by Braun and Clarke (2020), namely familiarising with the data; generating initial codes; generating themes; reviewing potential themes; defining and naming themes; and producing the report.

To ensure the trustworthiness of the findings of the study, debriefing, triangulation, member checking, verbatim statements, and thick descriptions were used. The information was gathered in accordance with the ethical principles of the Data Protection Act (Mauritius) and it was also guided by the BERA ethical principles.

## Results

The study consisted of fifteen lecturers who were the key participants and their biographical profile is given in the Table 2.

**Table 2**

*Lecturers' Biographical Information*

| Lecturer | Gender | Highest qualification | Years of teaching experience in ODL |
|----------|--------|-----------------------|-------------------------------------|
| A        | Male   | Masters               | 8                                   |
| B        | Male   | Masters               | 5                                   |
| C        | Male   | Masters               | 4                                   |
| D        | Female | Masters               | 7                                   |
| F        | Male   | PhD                   | 9                                   |
| G        | Male   | Masters               | 10                                  |
| H        | Male   | Masters               | 6                                   |
| I        | Female | PhD                   | 7                                   |
| J        | Male   | PhD                   | 10                                  |
| K        | Female | Masters               | 5                                   |
| L        | Male   | Masters               | 8                                   |
| M        | Female | Masters               | 6                                   |
| N        | Female | Masters               | 3                                   |
| O        | Male   | PhD                   | 6                                   |
| P        | Male   | Masters               | 3                                   |

Semi-structured interviews were conducted with these key participants to find answers to the research questions:

*What are the opportunities and challenges of using WhatsApp for knowledge co-creation through online collaborative learning?*

After conducting interviews with fifteen lecturers at the university to gather information related to the research questions, the findings have been compiled and are presented in the following two tables: Table 3 and Table 4.

**Table 3**

*The Opportunities of Using WhatsApp (From the Lecturer's Perspectives)*

| Opportunities                                        | Statements                                                                                                                                                                                                                                                                                                                  |
|------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| A sense of autonomy and ownership with tutor support | Lecturer D: <i>"It will create a sense of autonomy and ownership that can motivate them to involve themselves further in their studies".</i><br>Lecturer J: <i>"It will enable them to become more creative and will foster the skill and attitude to do research. By so doing, learners can become autonomous beings."</i> |

|                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|-----------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                   | <p>Lecturer O: <i>"I always intervene in the WhatsApp group to give his feedback on the assigned tasks."</i></p> <p>Lecturer A: <i>"I interact with the learners whenever required to keep them on the good track on WhatsApp."</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Reflective and authentic learning | <p>Lecturer A: <i>"I found that my learners could develop their critical, creative and innovative thinking skills through their research and readings of academic journals."</i></p> <p>Lecturer C: <i>"In the process of the Open Book assignment, not only did they use the OERs from the internet, but they could show their ability to summarise their reading and respond to the posts of their peers."</i></p> <p>Lecturer G: <i>"Since all my learners are working teachers, they could contribute to the WhatsApp discussion by adding practical elements in the content of the module. That was remarkable!"</i></p> <p>Lecturer N: <i>"Creating their content will enable them to become more creative and will foster the skill and attitude to do research."</i></p> |
| Emancipatory learning experiences | <p>Lecturer L: <i>"The notes in the book act as a skeleton for further construction."</i></p> <p>Lecturer G: <i>"The learners seize the opportunity to use an informal setting to voice out their feelings about the concepts, especially on pupil indiscipline in their school. It was like a therapeutic process of learning."</i></p> <p>Lecturer I: <i>"Having been a primary school teacher myself, I could express my feelings about the current issues as they happen in schools and that created a huge connection between us and the learners felt more confident about their openness of ideas. They felt valued."</i></p>                                                                                                                                             |
| Learning is fun                   | <p>Lecturer B: <i>"WhatsApp is a rapid and effective way to interact and have fun while learning (by making use of emojis and shared screens)."</i></p> <p>Lecturer F: <i>"Learning through WhatsApp on their phone makes learning cool and lively for the students."</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Fast access to learning resources | <p>Lecturer K: <i>"By searching, selecting, and uploading OERs on WhatsApp, the learners develop their critical minds and make the most appropriate reading and learning resources more available and in a fast manner."</i></p> <p>Lecturer E: <i>"My learners were quick at searching the concepts on the internet and were always ready to share them on WhatsApp. They were able to develop a more comprehensive open book for the assignment."</i></p>                                                                                                                                                                                                                                                                                                                      |
| Interactivity and collaboration   | <p>Lecturer B: <i>"Learners can share their ideas and knowledge on an interactive platform in which they are socially active and at ease among themselves."</i></p> <p>Lecturer N: <i>"Learners can do self-learning and so their learning is more meaningful."</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Student-centeredness              | <p>Lecturer D: <i>"My learners can make sense of their own learning since they have the possibility and choice to</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |

|  |                                                                                                                                                                                                                                                                                                                                                                                                   |
|--|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | <p><i>search and discover knowledge through the mobile phone and this contributes to lifelong learning."</i></p> <p>Lecturer A: <i>"Once instructed, my learners are free to generate their own content from their life experiences and from their search on internet. We then discuss the shared content on WhatsApp in our online classes and I give them feedback on WhatsApp itself."</i></p> |
|--|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Source: Author's own development.

**Table 4**

*The Challenges of Using WhatsApp (From Lecturers' Perspectives)*

| <b>Challenges</b>                                                                                           | <b>Statements</b>                                                                                                                                                                                                                                                                                                                                     |
|-------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Inability to use OERs for self-directed learning                                                            | <p>Lecturer P: <i>"Some learners do not know how to have access to OERs that can be downloaded at no cost very often."</i></p> <p>Lecturer H: <i>"The first-year learners are not familiar with the use of WhatsApp to learn. They mostly use social networking sites for chatting on other issues of their concern than as a learning tool."</i></p> |
| Obsolescence of the prescribed reading materials                                                            | <p>Lecturer J: <i>"Wherever OER is accessible, the manual quickly becomes obsolete."</i></p> <p>Lecturer N: <i>"The learners are working people and they often remark that the knowledge has changed and new knowledge crops up every minute."</i></p>                                                                                                |
| Respecting the ethics of media use is normative.                                                            | <p>Lecturer M: <i>"The student may not know how to filter the right information and may ignore the ethics of media use."</i></p> <p>Lecturer B: <i>"However, we should be careful about the use of such media as I think there are still some things on which we do not have control."</i></p>                                                        |
| Who will ensure that the information/materials shared on the platform is from reputed and reliable sources? | <p>Lecturer K: <i>"What will happen if learners use such materials to make their assignments or reply to exam questions?"</i></p> <p>Lecturer C: <i>"Learners are overloaded with a lot of information that they cannot make sense of the required and most appropriate reading resources."</i></p>                                                   |

Source: Author's own development.

## Discussion

Based on the above statements or responses from the participants of this study, it is obvious that lecturers in the ODL context in Mauritius perceived numerous opportunities that the learner may seize and derive from the use of WhatsApp as a learning tool in the B Ed Hons Early Childhood Education and Care programme. When ODL learners, who are practicing educators and working people, adopt WhatsApp as an educational tool, they develop a sense of autonomy and ownership; they can use reflective and authentic learning; they enjoy emancipatory learning experiences; learning becomes a fun; there is a high level of interactivity and collaboration among themselves; they quickly have access to the online learning resources; and student-centeredness is embedded in the teaching and learning process.

WhatsApp is a versatile instant messaging platform, that learners can utilise quickly (Oluwatoyin & Nthabiseng, 2023). This study found that learners freely upload learning materials that they have searched on the internet and which they consider appropriate to the assigned tasks set by the lecturer. By so doing, they develop their searching skills for OERs. In the context of the task of the creation of an Open Book on the causes of and strategies for learner indiscipline, they were extremely keen to search for the causes and the strategies and to share their views about its occurrence in their school context. This helped them developing themselves into autonomous learners and they developed a sense of ownership of the gathered learning materials on the WhatsApp platform. Indeed, WhatsApp facilitates the dissemination of learning materials (Stevani & Putro, 2020). The learners have such an opportunity when the lecturer is always prepared to provide them the academic support on WhatsApp. The lecturer's support is of utmost importance as the lecturers have to make extra but necessary efforts to build their social as well as cognitive presence in online learning (Singh et al., 2022). The lecturers in this study acted as a facilitator and a guide for the learners in the learning activities on WhatsApp and they promoted the development of a culture of collaborative research. This is in line with the Community of Inquiry framework (Garrison et al., 2010) which postulates for building of a sense of an online learning community in which the learners develop a sense of ownership of the co-created knowledge.

It was found that remote online collaborative learning through WhatsApp allowed learners to become reflective and to learn authentically. This happens when they co-create knowledge among themselves: The co-creation on WhatsApp allows them to take their time to freely think about their thinking (metacognitive process) and apply their reflection on their practicum or their professional experience as educators. They can connect their reading of OERs to their daily practices in the school context and this facilitates them to get better insights into the concepts and develop their understanding of them. Baguma et al., (2019), Bouhnik and Deshen (2014), and Díaz-Ramírez (2020) maintained that when WhatsApp is incorporated into the teaching and learning process, learners develop higher-order skills such as critical thinking and problem-solving. The findings of the current study, however, are in contrast with the findings of Yulianawati et al. (2021) that learners apply less of the higher-order skills but more of lower-order skills and expression of their personal opinions in the context of English as a Second Language (ESL) reading instruction class on WhatsApp. Furthermore, this collaborative learning promotes collective intelligence among the learners as it supplements self-directed learning, which is very limited when online learning is prescriptive only. Not only do they explore the concepts but they also exploit them by selecting, evaluating, and analysing them in an attempt to get the best information and content to their quest for knowledge. Learners in this current study were explorers and exploiters of content to achieve their educational goals as determined by the module learning outcomes in the prescribed manual. Garg et al. (2024) posited that social learning benefits learners' learning in groups through collective foraging. Furthermore, Ibrahimi et al. (2023) found that collective forage and the resulting collective intelligence foster innovation among individuals. In this study, the learners were able to produce an artefact like an Open Book.

In addition, the use of WhatsApp as a learning tool in collaborative teaching and learning context produced emancipatory learning experiences for the learners in the education programme. It was found that the prescribed learning material was only a pretext for learning the basic content as they could construct their knowledge through the sharing of their voices in all their tones: they could express their feelings of frustration, excitement, success, failure, boredom, and exasperation among others. Each of the learners had their share of experience that they lived about the topic of study – pupil indiscipline. The lecturer acts as a therapeutic facilitator who would help the learners in expressing themselves (Bluteau, 2020). Being remote in an online collaborative learning situation provides the learner with the possibility to unhesitatingly express their views and feelings without fear. Tulgar (2019) found that WhatsApp helps to break down barriers and increase learner participation, including the involvement

of shy and introverted learners. This current study demonstrates that through the process of online collaborative learning, through WhatsApp, the learners are transformed into more effective learners, as WhatsApp promotes not only cognitive learning but also socio-emotional learning. The study by Motlhaka (2021) confirmed that when learners use WhatsApp for learning, they develop social skills, mutual trust, and social bonds.

Moreover, this study found that learning is fun in remote online collaborative learning through WhatsApp. Learners expressed their emotions through emojis and shared screens, which increased the level and nature of their interactions in the learning process. Learning is therefore less stressful and more motivating and interesting. This is consistent with the findings of the study of Holly et al. (2023) which revealed that the learning process with the interactions among learners and with the teacher is not monotonous. Another study by La Hanisi et al. (2018) found that when WhatsApp is integrated into the teaching and learning process, learning becomes easy, fun, and useful; the learners develop more positive feelings and intentions about the adoption of WhatsApp in their formal learning. Tang and Hew (2017) further added that WhatsApp's social affordances enable them to communicate appropriate moods, emotions, and feelings. Besides, the current study demonstrated that learners have the opportunities to use, reuse, remix, and share existing knowledge from OERs available on the internet and make them appropriate to their learning. With rapid internet connectivity in Mauritius, learners have fast access to these learning resources which are customized by them in their attempt to find solutions to their online learning tasks. However, in many other contexts, this opportunity may not exist due to the digital divide (Nasution & Munandar, 2023; Rena, 2021).

There is a high degree of interactivity and collaboration among the learners in remote online collaborative learning through WhatsApp. The study showed, however, that those learners, who are still not working in the school setting, have a low participation rate in the online teaching and learning process. A lack of professional experience prevents learners from actively engaging in online collaborative learning discussions and activities. In a study on the use of WhatsApp as a tool for building a learning community, Cronjé and van Zyl (2022), Klein et al. (2018), and Nitza and Roman (2016) found that learners like the high level of interactivity and online content that is generated by themselves through their active participation in the social media technology.

From the concept of critical pedagogy by Freire (1970), WhatsApp as a learning tool provides opportunities for learners to use their critical consciousness by being actively engaged in collaborative learning. This study found that student-centeredness is the guiding principle in the use of WhatsApp in remote online learning. Through the various online activities that need to be completed virtually, learners can make sense of their learning and achieve successfully the learning outcomes of the module. The learning is activity-based, learners have the choice and voice in their learning, and their life and professional experiences form part of their learning. Indeed, Donkoh and Amoakwah (2024) found that all actions in the teaching and learning process are focused on the learners; the lecturer only facilitates learning. Through WhatsApp, learners are allowed to solve problems by applying already learned materials and proposing their own generated knowledge. The learner-centred pedagogy is grounded in constructivist epistemology postulated by Jean Piaget and Lev Vygotsky. As such, the knowledge that is co-created by the particular learners in a particular context is impermanent, subjectively owned, socio-culturally surmised, and internally created (Crotty, 1998), as found in this current study.

This study has nevertheless found a few challenges that the learners face when they use WhatsApp in remote online collaborative learning for the co-creation of knowledge, namely the learners' inability to use OERs for self-directed learning; the obsolescence of the prescribed learning materials; respecting the ethics of social media is normative; and the obscurity about who is responsible and accountable for the appropriate use of shared content and the reliability of its sources from internet.

The study was conducted with lecturers who were teaching first-year learners in this undergraduate programme. The Mauritian secondary education system is a banking system due to its overemphasis on task completion, spoon-feeding, and competitive examinations (Belle, 2017). However, it was found that some learners were not sufficiently mature to understand the learning of the module and, therefore, had difficulties to appropriately co-creating the relevant content from existing OERs. Singh et al. (2023) argued that users of OERs lack the appropriate skills of how to use them for effective learning and that they are context- and culture-bound, increasing further the incorrect their incorrect use for academic purposes. In a study on the open educational resources' usage trends among university learners in Pakistan, Shams et al. (2020) found that the fundamental barriers to the effective use of OERs are lack of internet and lack of skills in using OERs. Besides, learners tended to use the OERs mainly to answer assignments; they lacked originality as they had the "copy and paste" culture. This is explained by Speece (2012) who asserts that in a competitive world in which working people doing online learning, learners find it using OERs through WhatsApp can easily help them complete their assignments, though WhatsApp does not seem to fit the different learning styles of all ODL learners. Moore and Kearsey (2005) added that a single technology hardly meets the educational needs of every single learner. The culture of the learners determines the extent to which learners adopt collaborative learning on a device like WhatsApp (Speece, 2012). It is therefore obvious that WhatsApp does not always promote remote collaborative learning.

It is the practice of ODL institutions to provide a prescribed reading manual to the learner. This is in line with the theory of self-directed learning where the learner is guided by self-regulation, motivation, awareness, and self-discipline (Dahal & Bhat, 2023). However, it was found in this study that, with the dynamic digital education and easy access to the internet, the prescribed reading manual becomes quickly obsolete. From this perspective, Bozkurt et al. (2023) highlight that merely delivering and using OERs within traditional teacher-centred frameworks might not sufficiently prepare learners for academic success. Furthermore, the Open e-Learning Content Observatory Services (OLCOS) which functioned as a Transversal Action under the European eLearning Programme advocates rather for the use of OEPs (Open Educational Practices) which requires institutional and tutorial support that would help learners in using OERs effectively (Tlili et al., 2023). In the study, passive and hesitant learners are left on their own with the single manual, whereas those who are active, overt, and conversant with the internet co-create their content and knowledge with the latest developments in the subject. Some learners, therefore, are left with the outdated manual, and their knowledge of the module is limited to the prescribed manual. However, with the lack of the lecturer's support, the large majority of passive learners are deprived of the latest knowledge.

Another challenge is that learners may not be informed of the ethical issues about the use of social media. Lecturers perceived that their learners may ignore the ethics of social media platforms and may abuse their exploitation. Singh et al. (2023) recognized that there are legal rights, copyrights, and publishers' rights issues and internet users may not be familiar with Creative Commons guidelines. Saini and Mir (2023) raised their concern about the lack of regulations and the occurrence of unethical behavior from the learners. Moreover, there is a high possibility for the spread of misinformation on social media platforms that can easily make learners accept fake or biased content as fact without close examination of its authenticity (Saini & Mir, 2023). This current study found that the learners are so overloaded with information from the internet, through WhatsApp, that they do not feel it important to check each of them; they use them as they get them at hand from a click on their device. Singh et al. (2023) maintained that learners do not have the academic maturity to determine which OERs are of good quality and which ones are irrelevant as well as the sources of the content and if they are genuine for educational purposes. The biggest question here is: Who will ensure that the information or content shared on WhatsApp is from reputed and scholarly sources?

Based on the preceding section, it is clear that utilizing WhatsApp for remote online collaborative learning offers numerous benefits for learners to effectively engage in open and distance learning, but there are still challenges and issues that need to be considered by the learners, lecturers as well as the ODL institution as an educational service provider.

## **Conclusions**

WhatsApp is a flexible platform that enhances and facilitates ODL learners. The various opportunities and challenges have been highlighted in the foregoing sections. It enriches learners learning experiences. To further increase its applications and implementation in the ODL teaching and learning process, the programme providers, especially ODL institutions, must give their legal, financial, material and infrastructural support to the community of online learners. They need to set up a framework with guidelines and policies for the effective use of social media platforms for collaborative learning, train learners in the use of OERS and the co-creation of learner-led content that includes their professional and life experiences to make learning authentic, provide a repository of learners' work that may, in turn, become contextualised OERs for future learners of the same institution, and they should review the institutional principle of providing prescribed learning material for a module; rather, learners may be provided with an outline of the module or its learning outcomes. The creation of an online community of learners should also be mandatory. These recommendations would promote the co-creation of knowledge on social media platforms through the remote online collaborative learning, and hence, the shift from andragogy to heutagogy in ODL contexts.

## **Limitations of the Study**

The study was conducted with a small sample of lecturers and this might have provided limited insights into the phenomenon under study, though there is only one ODL institution in Mauritius. As a matter of this limitation, the findings of this study may not be generalised to the whole ODL context but they may be transferred to other contexts, depending on their profile and ODL characteristics and practices. Additionally, the gathered information could have been further triangulated with input from the learners to increase the credibility of the findings. The study was also limited to the use of WhatsApp for remote online collaborative learning among the learners and lecturers of only one module.

## **Suggestions for Future Research**

This study was limited to fifteen lecturers teaching in a single undergraduate programme. Future research could further investigate the potential advantages and obstacles of utilising WhatsApp or the institution's LMS platform for remote online collaborative learning. This study could be conducted using quantitative research methods at the institutional level, across all the programmes, and with a larger sample size of lecturers or even with the learners themselves. Additionally, a comparative study can be conducted concerned with the academic performance of learners within the university or between African universities, since the African context may have similar online practices as many of them have emerged during the last decade. This would increase institutional collaborative research on the use of WhatsApp and any other electronic devices such as WhatsApp chatbot or ChatGPT among learners. Mauritian higher education institutions have not yet conducted any research on the emerging learning devices powered by AI.

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## **Conflict of Interest**

The author declares no conflict of interest.

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