

## The use of Formative Assessment (FA) in Online Teaching and Learning during the COVID-19 compulsory education school closure: the Maltese experience

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**Abstract:** COVID-19 has shaken up the definition and perception of normality. Overnight, educators within the compulsory education sector in Malta had to change their modus operandi from face-to-face to online modality, this despite limited training on remote teaching and learning. This change shifted to a considerable degree the responsibility of learning onto the learners, something which, perhaps, Maltese students were not much accustomed to. Hence, the pandemic has fast-tracked the slow change that the Ministry for Education and Employment (MEDE) (2012) had been trying to bring about – that of having learners as partners in the learning and assessment processes.

Assessment for Learning (AfL) is by far the only evidence-based research which has proven to be the most cost-effective benefit for student achievement when practiced well (Black, Harrison, Lee, Marshall, & Wiliam, 2004; Black & Wiliam, 1998). The Directorate for Learning and Assessment Programmes (DLAP) within Malta's centralized education system, while making efforts to include formative assessment as part of the teaching and learning process, had not considered using it during online teaching and learning practices, as there never was the need to teach compulsory school students remotely. Hence, it was relevant to investigate whether this assessment modality was being used during online teaching and learning, especially when the digital tools had in-built FA tools. This study presents insights from four-hundred responses received to an online questionnaire about the use of formative assessment by Maltese educators across the different providers and levels of education prior to and during school closure. Results reflect teachers' use of a combination of strategies, which declined significantly when learning was transferred online. The highest number of combinations of four strategies, followed by a set of three remained consistent in terms of being the mostly preferred modes of formative assessment used by teachers. The decline has been laterally spread onto other group combinations. Effective Questioning was the most

used strategy in a set of combinations during physical classes, while both oral and written feedback were the most used, albeit to a different degree, when teaching online. Teachers who used a blended approach used both types of feedback, however, those who adopted an asynchronous approach relied on written feedback. The change in teaching approach has witnessed a four-type practice variation in the use of FA strategies: no change, slight, moderate and major change.

The study raised the issue of teachers needing to work outside their comfort zone as they had to adapt to the new circumstances, misconceptions about what online teaching and learning entails, knowledge of the possibilities of FA in this modality, and the need for further training as part of professional development.

**Keywords:** Formative Assessment, Online Teaching and Learning, Web 2.0 Tools.

## Introduction

This paper focuses on the forms of formative assessment (FA) adopted during online teaching and learning practices when Maltese compulsory education experienced the sudden school closure during the first phase of the pandemic.

The COVID-19 pandemic forced the closure of compulsory and post-compulsory education across the world. Malta was no exception, with March 13th, 2020 being the first day of temporary school closure following the Legal Notice 41 of 2020 by the Office of Superintendent of Public Health (2020a). Within the first week of closure, a subsequent Legal notice 77 of 2020 (Office of Superintendent of Public Health, 2020b) extended the closure period up to the end of the scholastic year, June 2020. This meant that students were going to be physically out of the school premises for almost six months as Malta has a long summer recess (July to September) with schools resuming for students on the last Wednesday of September (Demarco, 2017). At the time, the Maltese educational system responded to this unprecedented need for the provision of some form of education through a crisis management approach, (Camilleri, 2020). This brought to the fore the fragility of the education system, at least in the initial phase of disruption (Fullan, Quinn, Drummy, & Gardner, 2020). The Ministry for Education and Employability (MEDE), in its efforts to guide educators in schools set up a Working Group for Online Teaching and Learning (Cachia, 2020). The available online systems within schools in Malta at the time were the School Management Systems (SMS), the ilearn Fronter system for the state sector and the respective social media channels like

Facebook, Instagram and Twitter, with the latter two not common to all schools. As a professional educator working in the State sector of compulsory education in Malta, through my positionality, I am aware that within the state sector, SMS was being used mostly for announcements rather than for academic work (Lohr, 2009). This implies that during the pre-COVID-19 normality there was a somewhat taken for granted attitude (Fullan, et al., 2020) about the tools that were available, which led to them not being used fully as they were not considered essential. Schools thus tended to resort to the use of social media as their initial point of contact with the students and the parents, this despite Letter Circular, DCLE 08/2020 which emphasized the need to use the official platforms. The platform that was being promoted during COVID-19 was MS Teams, although this had not been used by the teachers or senior school leaders before. Hence, with school closure, the Directorate for Digital Literacy and Transversal Skills (DDLTS) which caters for digital support to schools, organized a series of Webinars for both educators, (Seguna, 2020), and School Leaders, (Gixti, 2020) as per Letter Circulars DDLTS 11/ 2020 and DDLTS 12/2020. Various Toolkits for both the primary and secondary cycles of education were developed to further support educators in the online teaching and learning (Aquilina, 2020).

### **Research aims and objectives**

As a College Curriculum Leader, I followed these webinars from which I learnt about the great potential that these tools offered to enhance and strengthen the role of FA in the online teaching and learning environment. The potential of FA has been amply documented with the seminal work by Black and Wiliam (1998) where the significant learning gains, if used well, have been demonstrated. Assessment plays a central role in both the traditional and non-traditional environment (Ogange et al., 2018). Considering findings from studies by Satariano (2015), Said Pace (2018) and Giordimaina (2020) which consistently concluded that primary school educators were unintentionally not using FA in the way it should be, I was intrigued to explore whether making teachers aware of FA possibilities offered by the online platforms and modalities were eventually translated into practice, and, if so, in what ways was it being implemented, and whether they would keep on using them when schools reopen normally. In view of this interest, the research questions set in this study were the following:

- What are the teachers' perceptions of FA in the online teaching and learning within compulsory education during the COVID-19 school closure?
- In what ways, if any, did the teachers embed FA practices in online teaching and learning within compulsory education during the COVID-19 school closure?

This study intended to find out the teachers' position on the use of FA in online teaching and learning in Maltese compulsory education. More importantly, it is also intended to inform policymakers about the need to include FA in the prospective National Assessment Policy that is currently being worked on, (Grixti, 2019), and to contribute to local and international literature as "...evidence from compulsory education about online teaching and learning is still emerging..." (European Commission Directorate for General Education, 2020, p. 6).

My positionality in this research is that of an educational professional where my role is to support a state college in the implementation of the curriculum across the two cycles of compulsory education. The underpinning rationale that guides my daily work is to provide quality teaching and learning experience influenced by Dweck's (1986, 2000, 2010) growth mindset and the social constructionism theoretical framework (Vygotsky, 1978).

### **Background to the Maltese Compulsory Education System**

In Malta, compulsory education is aimed at children between the ages of 5 to 16 (Government of Malta, 1988), and is offered by State, Church and Independent sectors. State education caters for around 60% of the student-population and is provided within the village of the students free of charge, (National Statistics Office, 2018). The Secretariat for Catholic Education (Church sector) caters for almost 30% of the student cohort against a small annual donation, and the remaining 10% is provided by the private-independent sector against a tuition fee.

Besides having compulsory formal education starting at the age of 5 (European Commission/EACEA/Eurydice, 2018), Malta also offers a free-child care system and a pre-primary non-formal education programme from the age of 2 years 10 months to 4 years 9 months years to almost 97% of that age-cohort, which is above the EU average of 95.4% (European Commission, 2019).

## **Theoretical background: Defining Formative Assessment (FA)**

Formative assessment, as is considered in this paper is at times interchangeably referred to Assessment for Learning (Afl). Formative assessment is a widely discussed field in the areas of assessment, teaching and learning. The various definitions attributed to it present a challenge to the field (Bennett, 2011). The most widely cited definition is that by Black and Wiliam (1998) who argue that assessment comprises all those activities undertaken by teachers and by their students in assessing themselves, and which provide information to be used as feedback to modify teaching and learning activities. Furthermore, they ascertain that to qualify as formative assessment, the evidence must be used to adapt teaching to meet student needs. A decade later, Black and Wiliam (2009) have redefined their original work to reflect more the teaching and learning interactions that should be at the core of the formative assessment process. It states that:

‘Practice in a classroom is formative to the extent that evidence about student achievement is elicited, interpreted, and used by teachers, learners, or their peers, to make decisions about the next steps in instruction that are likely to be better, or better founded, than the decisions they would have taken in the absence of the evidence that was elicited.’ (p. 7)

In a recent study, Said Pace (2018) sustains that albeit this lengthy and detailed definition, teachers and students would benefit from a more pragmatic definition which unpacks the steps that need to be taken within a lesson. Two definitions considered more teacher and student-friendly, are presented. Their difference lies in the point of view from which they are written, the former from the teacher's side, and the second one from the student's perspective.

FA is based on Vygotsky's social theory of learning (Vygotsky, 1978). It considers the talk that goes on in the learning process as helping learners to reflect on their mistakes, to think further on the concepts being learnt, and consequently, creating an opportunity to grow. According to Lamb and Little (2016), dialogic talk facilitates processes which are at the optimal level of assessment. This is particularly the case for Assessment as Learning (AasL), where students can self-regulate their learning path by

using certain FA strategies like self-assessment and success criteria. These are two out of seven strategies used in the classroom to cover the five main principles of FA identified by Wiliam and Leahy (2015, p. 11), and which consist of: clarifying, sharing and understanding learning intentions and success criteria; engineering effective discussions, tasks, and activities that elicit evidence of learning; providing feedback that moves learning forward; activating students as resources for one another; and activating students as owners of their learning.

In translating these principles into lesson strategies, the formative lesson framework involves: checking for understanding which consists in finding out the prerequisite knowledge that students are bringing to the learning episode; sharing or eliciting the learning intention/focus or goal of the lesson, that is making explicit the destination that the learning episode intends to reach; sharing or eliciting the ingredients of what makes an excellent piece of work in that students are aware of what their work should comprise to be considered of good quality; having learners recount their trajectory towards a successful end-product through self-assessment, providing effective opportunities to think through effective questioning, giving effective feedback, and encouraging self and peer assessment (Clarke, 2005).

### **The Evolution of FA in the Compulsory Maltese Education System**

Article 9 of the New Education Act by the Government of Malta (2019, p. A1588) states that "...it is duty of the school to establish a culture of lifelong learning and conducive conditions for effective quality teaching and learning... and to promote high standards of learning and teaching...." Hence, effective quality teaching and learning is enshrined in national legislation. Quality teaching and learning is understood in terms of Wiliam's (2016) explanation and positioning of assessment as central or as the bridge between teaching and learning. The continuous interaction loop between the teacher and the student and amongst students is what enriches the teaching and learning experience. This fundamental right has long been echoing in the major policy documents driving the education in Malta: the First National Minimum Curriculum (Ministry for Education, 1989), which stressed the importance of offering a quality teaching and learning experience by celebrating diversity and preparing students for tomorrow's workforce demands. This was followed by the National Minimum Curriculum - Creating the Future Together (Ministry of

Education, 1999), which stressed the need of a more formative approach to education that fosters the concept of social justice. In response, the streaming system was changed to one more focused on assessment (Grima & Chetcuti, 2003). It was the third version of the legislative document: National Curriculum Framework For All (NCF), (MEDE, 2012), and which is also the current curriculum that embraced the EU's vision for education. It also set the legal framework and rationale for the gradual implementation of the learning outcomes approach towards teaching and learning (MEDE, 2015). Hence, the NCF necessitated a paradigm shift from a content-based approach to a more developmental one driven by outcome levels. Additionally, the NCF also formally acknowledged FA as one of the pedagogies that could assist teachers in establishing a student-centred approach to learning.

The Inclusive and Special Education For All audit report, (European Agency for Special Needs and Inclusive Education, 2014), highlighted the “overemphasis on high stakes summative assessment...high level of competition” of the local education system and that there was “very little evidence of Afl across schools and limited possibilities for learners to take control over their learning” (p. 45). Such position was reaffirmed by Said Pace (2018) who argued that little change, if any, had taken place since Grima's and Chetcuti's (2003) conclusions that testing was the predominant schools' assessment cultures.

Few local studies about FA have been carried out but all have been consistent in their findings. Satariano (2015) showed that the participants in his study, Year 4 (8-year-olds) teachers reflected a theory-to-practice gap between their understanding of FA and its effective implementation. Similarly, Said Pace (2018) reported that the teachers' beliefs-to-practice relationship about FA existed to degree, and her participants in the study, teachers teaching (Year 1 - 5 year-olds; Year 3 - 7 year-olds; and Year 6 - 10 year-olds) attributed the success of FA existing mainly due to the students' motivation and disposition towards learning. This study places motivation as a pre-determinant for success in learning, a finding which contrasts with Wiliam's (2017) position that motivation is a by-product of success in learning rather than a priori cause. Recently, Giordimaina (2020) concluded that “...teacher participants are finding it difficult to understand the rationale behind [FA],...as they are simply implementing the FA strategies [on a have to basis] because they are part of the School

Development Plan (SDP) and not because they truly own them” (p. 87). Ownership of FA might be gained through the support that teachers receive. If teachers extend their knowledge through literature reading and the support given in schools by the Heads of Department for FA, there might be a better theoretical understanding of FA. This approach reflects an adaptation of Black's and Wiliam's (1998) seminal project work in collaboration with King's College (Black & Wiliam, 2005, 2009).

The studies cited indicate that, at least, at primary education FA literacy level in Malta is still very fluid. However, this challenge is consonant with what is happening at international level (DeLuca and Klinger, 2010); (Carless, 2010); (Klinger et al., 2012); (Shewbridge et al., 2013); (Organisation for Economic Co-operation and Development, 2015); (McIntosh, 2015). The new LOF approach adopted in Malta required a robust understanding of the formative nature of assessment, which not only changed how curricula are described but also the mode of assessment. This has resulted in a percentage of continuous assessment (CA) carried out making up part of the students' end of year global assessment mark (Bugeja, 2018). Across the primary cycle, the ratio of the CA is 40% whilst in the secondary, it varies across subjects (Cachia & Bugeja, 2020). A recent study by Calleja (2020) about the CA and LOF reforms concluded that teachers are still struggling to understand the rationale of the LOF, and further training and support was recommended. Therefore, despite the efforts that are being made in promoting FA, there still is lack of assessment literacy. The rationale behind the LOF indicates that reform has been overall superficial so far and there still needs to be a deep level of engagement for FA. There is thus a need for more local studies on the use and implementation of FA in the current scenario as well as on FA during online teaching and learning.

### **Online Teaching and Learning**

Online teaching and learning (OTL) is an umbrella term encapsulating diverse modalities of technology-enhanced teaching and learning opportunities (Sadiku, Adebo, & Musa, 2018). Put simply, OTL refers to any learning that happens through the web or at a distance via a device. It can happen in a synchronous way (real-time) or asynchronous (at the pace of the student in a controlled way as the deadlines set would have to be met). A combination of both is mostly referred to as blended learning (European Commission Directorate for General Education, 2020). Blended



learning can be best defined as a combination of all the possibilities of learning that can occur via the Internet and the digital means, and the traditional classroom requiring the physical co-presence of the teachers and the students (Friesen, 2014).

Teaching and learning is a highly complex activity because the experience offered to students is shaped by the teacher's beliefs and values, (Bates, 2019). It is also a by-product of the teacher's epistemology and theories of learning (Harasim, 2012). The three main learning theories shaping teaching and learning are – behaviourism, cognitivism and constructivism. Behaviourism is rooted within a positivistic view of knowledge which considers the mind as a black box to be filled (Freire, 1970), whereas cognitivism studies refer to thinking processes that occur inside the black box (Bates, 2019). Constructivism, in contrast, considers the construction of knowledge as dependent on the social environment (Vygotsky, 1978). Notwithstanding these influential theories, there is the need for a new theory of learning applicable to the digital age as these existing theories do not address learning that occurs outside people (Siemens, 2004, 2017). Bates (2019) refers to this digital age as the Knowledge-Age and indicates the theory of connectivism as that which would fill the gap not covered by the other theories (Siemens, 2004). It focuses on understanding the impact on the teachers' modus operandi brought about using these tools. Siemens (2004) equates this to a pipe in that the pipe is more important than its contents – the “know-how” rather than the “know-to-do” and therefore, connectivism is interested in identifying the skills and competencies needed by the students to make sense of the knowledge. The debate about the theorization of digital learning was raised by Harasim (2012) who asserted that “online teaching and learning is poorly defined and theorized” (p. 87). This might lead to unintentional bad practices if educators “just integrate the traditional ways of teaching into the online modality, instead there must be a transformation in pedagogy.” Such a change would embrace NetGeneration (NETGen) new ways for socialising and work thus abolishing the current divide that exists with the education's in-school practice response to this reality” (p. 82). Bates (2019) compares this to the metaphor of using old designs in new bottles.

Considering the theory of connectivism in the context of the 21st century labour market needs (Skills, 2009), connectivism can address online collaborative learning (OCL) that focuses on knowledge-building and creation (Harasim, 2012). This theoretical framework aligns very well with

that of FA as its pillars are based on quality interaction between the main actors in the teaching and learning process. Embedding FA in distance learning platforms is a necessity if teachers want to facilitate the significant learning gains that can be obtained from the inclusion of FA in the traditional classroom (Black et al., 2003; Wiliam 2011a, 2011b). Peat and Franklin (2003) sustain that the three main benefits of FA in the online environment are: flexibility, repetition and immediacy. 'Flexibility' stems from the vast opportunities offered by the online platforms (Dyer, 2019). 'Repetition' provides the possibility of several attempts, and it is 'immediate' because the feedback is timely, (Hattie, 2012, 2014). Feedback can be diversified through either oral or written type, adapting to students' different levels of literacy. Absence of feedback has been shown to be a strong contributor to failure amongst first-year students in higher education (Entwistle et al., 1989). In a study by Peat and Franklin (2003), lower achieving students used more FA than the high achievers. They also believed that the "FA online resources helped them in their own assessment" (p. 97). What was perplexing was that this belief was not reflected in the use that the students made of the online resources. In fact, the authors conclude that "no answers have been found yet" (p. 97), and that this warranted further study. One possible reason for this incongruence could be that the students are not making effective use of the online system. This leads to the need to train students in the use of FA (Bates, 2019; Said Pace, 2018). Effective use of FA by the students requires that teachers have a good understanding of the ultimate effectiveness of the product, (Sims et al., 2002), because only then can they be "proactive evaluators of whether the ingredients that will be used are appropriate for online consumption" (p. 36). It is thus "essential for teachers to become more scholarly in the assessment methods used for online delivery" (Berridge, Penney, & Wells, 2012, p. 68), because they present new ways of schooling and how technology can support learning (Darling-Hammond & Kini, 2020). This is a golden opportunity to finally empower and provide equitable learning opportunities for all children as education systems are running the risk of widening the gap with longstanding impacts on our society and economy rather than reducing them. Compulsory education needs to redesign the whole concept of assigning, collecting and correcting work, especially when online teaching is being mostly used in post-compulsory education which questions the readiness of compulsory education teachers for this paradigm shift (European Commission Directorate for General Education, 2020).

In the local higher education context, remote synchronous (real-time) and asynchronous (recorded) teaching and learning were not an integral part of pre-service teacher training at pre-COVID times. To this end, higher education institutions had to rethink and redesign the delivery and assessment of the teaching practicum amongst others (Vancell, 2020) and in some cases issue an expression of interest for programme developers in the area of online teaching and learning (Grima, 2020). The Directorate for Digital literacy and Transversal Skills (DDLTS) also launched a massive training programme for educators and school leaders to support them in the use of the already freely available software and technology to enhance the teaching and learning (Aquilina, 2020; Grixti, 2020; Seguna, 2020). Since there was limited use of the School Management System for learning (Lohr, 2009), the disruption in learning experienced a greater impact, and an even greater effort and shift had to be made to move to remote learning.

Online teaching and learning when schools closed due to Covid proved to be very challenging for Maltese educators. Evidence by Deidun (2020) and the Directorate for Digital Literacy and Transversal Skills (2020) shows how similar issues to those highlighted by Gupta (2017) were experienced. These comprised the need for young learners to be assisted by their caregivers who had other commitments; increased students' workload to learn and adapt to the new ways of teaching methodology; established certain technological habits like frequent email checks, combated the digital illiteracy of some parents and students; raised the issues of accessibility, technical, ergonomical and health issues of learners; as well as experienced low students' response rate.

In the second phase of the pandemic, the different sectors responded differently as schools reopened under the National Health Guidelines COVID-19 mitigation measures by the Office of the Superintendent of Public Health (2020c) which encouraged the continuation of some form of online teaching and learning practices. Thus, this further warrants for further study in this area to maximize the potential of online learning.

### **Research Methodology and Data Collection**

For a good research study plan, there must be a clear alignment between the research question, the methodology and the data collection (De Vaus,

2001). The research questions in this study address the 'what' and the 'how', and thus provide a mainly descriptive account (Krippendorff, 2012).

The qualitative part sought to interpret the participants' responses in the open-ended questions and quantitative in the closed ones where the fluctuations in the figures give an important insight into the teachers' practices.

The instrument of data collection used was a web-based questionnaire which consisted mostly of closed-questions, thirteen out of seventeen, and four open-ended ones. The inclusion of open-ended questions gives participants the opportunity to express themselves in a creative way as they are not restricted or influenced by pre-set statements (Greener, 2011; Bryman, 2016; Creswell & Plano Clark, 2018). More than that, the fine details that can be provided by the participants' authentic words can never be captured by numeric data (Cohen, et al., 2018).

A web-based data collection exercise approach was used both because it was the lockdown period, and technology also makes it easier to organize and sort the data. This reduces human errors during the first level of analysis. It is also more environmentally friendly, cost-effective and ensures complete anonymity, respects confidentiality, and does not bring in power relations with the participants. Despite these benefits, a major weakness is the lack of human interaction between the researcher and the participant (Reja et al., 2003).

The data collected from the respondents through the questionnaire included: their demographic and gender-type data, their education sector and the cycle; the FA practice used prior to the school closure, if any; FA practice during the school closure, if continued; any re-thinking on the inclusion or exclusion of FA during online teaching; type of training received; the continuation of the practice in the re-opening phase; the platforms they used; and an explanation of the FA strategies they used to reach out to students.

## Recruitment of Participants

The Directorate for Research, Lifelong Learning and Employability (DRLL) within the Ministry for Education and Employment in Malta granted authorization to carry out research in state schools on May 5th, (Mamo, 2020). On May 11th, permission from the Secretariat for Catholic Education was granted (Mallia, 2020). Permission from the independent sector was sought and obtained from the Heads of School.

The Directorate for Research, Lifelong Learning and Employability (DRLL) acted as intermediary with Ministry's Information Management Unit (IMU) for disseminating the questionnaire to all ilearn address users (the official work email address of all the educators working within the state). Similarly, the Secretariat for Catholic Education disseminated the authorization letter to all the Heads of School who assisted with the distribution of the questionnaire despite the additional demands that they were experiencing due to the COVID-19 pandemic. Data collection was also supported by the Malta Union of Teachers who also disseminated the questionnaire among its members (Malta Union of Teachers, 2020). The research was also shared in social media groups created by the educators in Malta.

Statistical frequencies for responses to the closed-ended questions were applied. In the case of the open-ended questions content analysis was carried out. Krippendorff (2004) defines content analysis as a “research technique for making replicable and valid inferences from texts (or meaningful matter) to the context of their use” (p. 18). In this case, the interest was to dig and unearth the concepts and themes within that context, be it freely expressed in the open-ended questions or more focused through a choice of options in the closed questions (Elo & Kyngäs, 2008). The process for content analysis was carried out following the five steps identified below.

1. Initial reading of the closed-questions responses to get a first impression of the predominance of the sector, the use of the FA, the platform used, the modes of communication and the prospective plans in the use of FA.
2. Filtering of the responses by cycle for a deeper picture of what happened before, and during, COVID.

3. Focusing on the rate of change of the type of practice between pre- and during the school closure COVID period. Resulting from this, three types of variations were established – slight, moderate and major – as shown in Table 3 below. Less than 30% change was attributed a slight modification. Between 30 % and 69% were considered as moderate whilst more than 70% was assigned a major variation. These percentages were decided upon by drawing on the normal distribution curve statistics by Gauss as explained by McLeod (2019).
4. Evaluation of the different combinations of FA strategies used by the educators prior to COVID-19 and during the school closure. It was noted that the most common one was the four-strategy approach comprising the learning intention, success criteria, questioning and feedback, albeit to a lesser frequent degree during the school closure.
5. Analysis of the open-questions' responses to elicit meaning whilst trying to understand the “new ways of thinking and doing practice”, (Drisko & Maschi, 2015, p. 20), to form the emerging themes.

## Results

385 educators (171 from primary education and 214 from secondary) hailing from both cycles of compulsory education across all the three sectors (State, Church and Independent schools) in Malta have participated in this study. 234 were from the State schools, 109 from the Church schools and 42 from the independent non-State sector. These figures reflect the national percentage population per sector which is represented by 61% of the respondents, the church by 28% and the remainder 11% by independent schools. The absolute majority of the respondents were females which reflects to a great extent the cohort of educators in Malta where the teaching profession is highly feminine, with 86% females at primary and 64% at the secondary level (European Commission, 2019, p. 4).

A predominant number of participants used FA daily at pre-COVID19. However, the use of FA during the schools' closure decreased significantly as illustrated in Table 1.

| Frequency of FA Practice | Pre-COVID |    |    | During the COVID lockdown |    |    |
|--------------------------|-----------|----|----|---------------------------|----|----|
|                          |           | P  | S  |                           | P  | S  |
| Yes, daily               | 221       | 73 | 89 | 120                       | 42 | 78 |
| No                       | 28        | 16 | 12 | 74                        | 39 | 35 |
| Sometimes                | 136       | 54 | 82 | 163                       | 74 | 89 |

**Table 1: Frequency of FA Strategies pre-COVID and during the school closure (P-primary, S-secondary)**

The table above shows that the greatest decline occurred in the daily use of FA strategies at primary level. However, this does not mean that FA was not used but rather that educators used FA strategies less frequently at twice or three times a week. There was also an increase in the number of educators who did not use FA strategies during the lockdown, this was evident at both primary and secondary education.

The most popular strategy used in face-to-face teaching was effective questioning. However, this result should not be interpreted in isolation as teachers were using a combination of effective strategies rather than just one strategy. In fact, 46 different combinations were in-use prior to COVID-19, with the most popular group being a four-strategy approach used by almost 25% of teachers and involving: learning intention; success criteria; questioning; and feedback. Interestingly, the same combination has remained consistent also during online teaching and learning, albeit a slight dip in the number of educators using four-group FA combinations. In contrast to pre-COVID-19, the strategy that featured most was effective feedback. This may reflect the greater use of 'written' rather than 'verbal' communication used in online learning.

Table 2 shows the shifts in FA strategies that have occurred between the two-phases in terms of combinations of FA strategies used. The responses indicate clearly a decline in use of FA across both primary and secondary cycles.

| Strategies | Pre-COVID-19 |    | Total | During COVID-19 lockdown |    | Total |
|------------|--------------|----|-------|--------------------------|----|-------|
|            | P            | S  |       | P                        | S  |       |
| 4          | 35           | 54 | 89    | 25                       | 36 | 61    |

**Table 2: The Shift in the usage of the four-strategy approach**

Analysis of the change ratio in each cycle, as illustrated in Table 3, shows that the highest variations have occurred within the primary cycle with major and moderate variations.

| Sector    | Type of Practice Pre-COVID-19 |    | Type of Practice During COVID-19 |            |    | Change ratio                     | Comments           |
|-----------|-------------------------------|----|----------------------------------|------------|----|----------------------------------|--------------------|
|           |                               |    | Yes                              | Some-times | No |                                  |                    |
| Primary   | Yes                           | 23 | 7                                | 10         | 6  | $\frac{16}{23} = 0.695$<br>~ 70% | Major variation    |
|           | Some-times                    | 12 | 1                                | 4          | 7  | $\frac{8}{12} = 0.666$<br>~ 67%  | Moderate Variation |
| Secondary | Yes                           | 35 | 16                               | 13         | 6  | $\frac{19}{35} = 0.542$<br>~54%  | Moderate Variation |
|           | Some-times                    | 19 | 3                                | 11         | 5  | $\frac{8}{19} = 0.42$<br>~ 42%   | Moderate Variation |

**Table 3: Change ratio in the Frequency of the Strategies Used**

In considering these change ratios, the data reflects different patterns to how teachers changed their FA strategies. These patterns can be classified under the following possible four classifications:

- FA that was used in face-to-face teaching was no longer used in online teaching – a negative shift which equates with a negative major variation,
- FA used in face-to-face teaching classroom and still used online – either no shift or positive which equates with a positive major or moderate variation,
- FA not used in face-to-face teaching still used in the online teaching – positive shift with a positive major variation, and
- FA not used in face-to-face teaching still not used in online teaching – no shift.

Thus, the rethinking in the use of FA strategies, or shifts identified, can be of three types – none, positive or negative which highlights the need for training of teachers in use of FA approaches. The need for training, in fact, was evident in the responses obtained where: 45% educators engaged in



self-sought training to upskill themselves; 32% participated in training webinars organized by the school; while the remaining 23% did not attend any training.

Further insights were obtained from the responses given to the open-ended questions in the survey. The respondents identified MS Teams as the most used platform, followed by other freeware available to teachers like ClassDojo, the school's management system and the social media communication channels. Aligned with this was the use of emails to reach out to students followed by the School's Management System, synchronous and blended learning sessions.

The open-ended responses indicate the educators' overwhelming feeling of the steep learning curve that they had to undergo in order to learn how to provide online learning. This is reflected in the comments related to training or to FA which are included below. Some educators indicated that they did not have enough opportunities to train on how to provide FA when teaching online.

- "...no training was given in FA..."
- "...it was not offered [by the school] ..."
- 'no training except for sharing of experiences by teachers.
- 'none available in my subject, Ballet'

A good number of educators did feel that they needed significant amount of training:

- '...when we restart, I need one-to-one help...';
- '...need more training to be more confident in using these platforms'; '...'
- 'I feel I am at a loss as Secondary School teachers never had any scrap of training on software and online teaching...'

Teachers complained that they would have been better prepared for remote teaching and learning if the training given while still at school

- '...focused on matters of real interest rather than just be a rushed affair and not on topic of interest';
- Some other educators were not willing to provide FA or engage in self-sought training in FA or online teaching due to various reasons. Some did not see the value of FA through

online methods:

- '...too busy/overwhelmed for self-sought...'
- '...FA is not valid with the very young ones as most have parental input...'
- 'due to lack of training in online lessons...it would be too much to expect that FA is done online...'
- '...not used, although I would be interested, but the students' low response disheartens me too'
- 'I teach the young ones and using class dojo which is why I am not using FA'
- 'not trained properly and that makes me anxious'
- 'no, because I don't want to spend any more time in front of the screen'

The embedding of the FA strategies was mainly achieved through the inclusion of the learning intention and success criteria on PowerPoint presentations, handouts or through verbal reminders during live lessons. Questioning and feedback were an integral part of the synchronous online sessions. Written feedback was used in homework through software comments box and the tools available for feedback in the Web 2.0 tools. Peer assessment was used in break-out rooms' discussions. Self-assessment was facilitated by the rubrics, comparing one's answers with the solutions sheet sent by the teacher and against the automated response feedback in Microsoft Form Quiz. Brainstorming activities, one-minute and exit ticket notes were used to check for understanding. The concept of flipped classroom was mentioned by only one educator.

## **Discussion**

This section analyses of the data findings are to be considered with respect to: educators' implementation of FA strategies while considering their cultural context and the prevailing mindset; the role of professional development and whose responsibility it is; and the expectation on educators to work outside their comfort zone and confidence in FA.

### **The Context and the prevailing mindset for learning**

The findings of this study predominantly highlight the use of FA strategies by secondary school educators, which is unexpected for Malta. In fact, most studies about FA have focused on the primary context. It is indeed positive to gain insights into secondary level educators' practice in FA when considering that the support for secondary schools is still in its

infancy (Caruana, 2016). This implies that interest in FA is not necessarily related or a cause-and-effect of the support that is offered to educators, but possibly related to the educators' beliefs about FA which are consonant with the educator's values (Bates, 2019). This shows that it would be easier to encourage secondary level educators to provide FA as the gap between an educator's positionality about teaching and learning and the methodological approach is low, thus decreasing the resistance for change (Fullan, 1993).

Another influencing factor that could have led secondary educators to use FA so strongly is the recent change to the learning outcomes approach in the teaching and learning (MEDE, 2015). This change has implied a change in the assessment system where continuous assessment has a significant weighting on the global annual mark performance in a subject area (Cachia, 2020a). So, this backwash effect could have pushed the educators to, at least, start trialing FA practices (Webb & Jones, 2009). Notwithstanding this positive shift, misconceptions about online teaching and learning and FA could be noted. For instance, comments like 'online teaching is inferior', 'online teaching is a temporary measure', 'music cannot be assessed', 'correction is very time-consuming when done on photo pictures of the homework' show that these educators are comparing the quality of face-to-face teaching with that of the online scenario rather than focusing on different forms of FA strategies and their contribution to learning. In online and face-to-face learning, the variables and the contexts are different. However, this does not mean that quality must be compromised in online teaching. Instead, it highlights the great need for training on both how FA strategies can be implemented using technology to enhance the teaching and learning. It highlights that FA should not be bound to the physical classroom but can be used in a variety of contexts. Adjusting to the demands of the current COVID-19 situation was not easy, but if the occupational culture is one which responds to challenges because it embraces a growth mindset, the transition would be easier (Dweck, 1986, 2000).

Misconceptions were also identified among the primary educators' responses in that they tend to '...associate it [FA] with older students...', and that 'online [teaching] does not cater for differentiation'. Thus, they have claimed that 'the emergent curriculum cannot be done online', and thus 'online teaching [is] for certain subjects and not others'. With respect to FA strategies, primary educators stated that 'peer assessment is

difficult'. These responses strengthen further the call for continuous upskilling, especially when online teaching and learning is dependent on software applications which are constantly updated. These comments need to be interpreted within the timeframe they were collected, and increase in use of FA strategies through the use of certain applications will contribute to counteract these perceptions. Educators would be fairer to argue that they don't know yet how to make the most effective use of a tool rather than to say that something cannot be worked out. The Maltese Directorate for Digital Literacy is offering tremendous support in this area, (Aquilina, 2020; Seguna, 2020) to counteract such view. It is also not accurate or fair to state that 'no training was given in FA' or 'we were never trained in online teaching it would be too much to expect that FA is done' or 'not guided in online.' Whilst it is true that the pandemic has caught educators unprepared, proactive training was indeed offered, and if this has not been taken up, it may be for various reasons. Due to the sudden change in teaching, possibly, not all teachers were reached. However, one also needs to question whose responsibility it is, the teacher, the organization or both to ensure that there is adequate training for educators. It is my opinion that both education providers and educators are responsible. However, school organizations are limited by time constraints, expertise, and funding with respect to how much training and support they can offer. Hence the ultimate responsibility for upskilling should reside with the individual. The 21st century education cliché' that we are preparing people fully for jobs that do not yet exist, (Skills, 2009; Trilling & Fadel, 2009; Tucker, 2014), has materialized during the pandemic as educators within compulsory education never thought that they had to teach remotely. Evidence of this is in the participants' comments - 'we never expected/thought of this' - and those who have waited for their organization to upskill them were not able to continue to deliver teaching up to the same standard as that before the pandemic. In addition, the limited digital literacy of a few parents has frustrated many primary educators who depend on the parents' collaboration and support to log the students for online lessons and to monitor that the work is being done. The Directorate for Digital Literacy and Transversal Skills did offer support with live and recorded videos for parents on MS Teams, but developing such skills needs time and practice. Thus, having to switch to online teaching and learning has forced educators to work within uncharted territory, and this must have threatened the educators' comfort zone.

## **Formative Assessment through online practices - is it a comfort zone issue?**

Coleman and Kottkamp (2015) assert that educators should be allowed space to make sense of what they are being asked to deliver. The sudden spread of the pandemic, however, did not offer this luxury to education systems. Therefore, restructuring had to take precedence over re-culturing, something which Birenbaum (2016) is strongly against. Consequently, the uncertainty of trying to understand how to embed old methods and processes into the new means of learning has challenged the educators' comfort zone (Leahy and Wiliam, 2012). This is reflected in comments made by educators such as, 'I will never go live with minors as they might lie about me and don't like being watched by the big brother' reflects, not only the stark contrast of the learning context, but also the view that teaching is a private affair, to be known only by teachers and students.

A level of comfort and confidence in the FA strategies was reflected in the changing practices, albeit if to a different degree. While there was an overall decline in the strategies used, the decrease was spread across other approaches to maintain the same number of strategies but changing one of them or reducing one or more. In very few cases some educators increased the FA strategies used.

The group that has seen the greatest decline in use of FA strategies was the six-strategy group where out of 28 primary educators only 4 kept using the whole set, and in the secondary it was even less at 2 from 29. In the case of the four-strategy group, the decline did not affect the combinations of strategies used pre-COVID-19, implying that there was consistency within the change. The group combinations illustrate that the most practiced group of FA strategies prior to COVID-19 remained the most popular even during the school closure. Yet educators have also been flexible with the other combinations and adjusted according to their circumstances. However, there is still concern for those educators who did not use it. This mainly reflected a lack of interest in using FA strategies because they were not told to use something different, and simply qualified their practices as not applicable to online teaching and learning. If need be, these educators would need handholding as one participant has admitted that, 'when we restart, I need one-to-one help.' Also, such approach could assist other educators holding misconceptions about FA

through the online modality. Another justification for not using FA was that due to 'the students' low ability the success criteria and self-assessment could not be implemented.', which is worrying as this was expressed by a post-graduate in the area, and one would expect a better practice approach to the implementation of FA (Black & Wiliam, 2009). This ties again to the notion of professional development or capital, which Hargreaves and Fullan (2012) classify into a three-tier system - human, social and decision capital. It is evident that this extraordinary circumstance called for educators to invest in their human capital in order to increase their social capital. Albeit the overall decline in the use of FA strategies, the results are very encouraging because FA practices were used consistently, even if teachers applied different combinations.

In view of the issues which emerged from this research the following recommendation are being put forward. There is, first of all, need for training in formative assessment that addresses the misconceptions identified in this study that some strategies are difficult to implement in the online environment. There is also need for parental training or information sessions to highlight the role that they play in the online context so that assessment can still be carried out in a fair and reliable way. This training should also focus on how to adopt a student-centred approach in online live sessions. It is also essential to promote professional discussions that enhance the educators' creativity when adapting Web 2.0 tools. The spread of information about FA in simple layman's language is also important so that non-educators can understand what it is about. And, most importantly, there is need for further collaboration between the Malta Team promoting FA strategies, the subject, curriculum and Digital Literacy Educational Officers in order to achieve maximum impact within the education system.

## **Conclusion**

This study has investigated the educators' perceptions on FA through online teaching and learning within the compulsory education cycle. A survey with both closed and open-ended questions was used for data collection. While the results indicate a decline in the use of the FA strategies, there was also a spread in the types of combinations used. Misconceptions about the feasibility of FA also emerged with respect to the relevance of FA within online teaching. The results highlight the impact on teachers who had to work outside their comfort zone in

established FA practices, and the need for further training for teachers, which can only be achieved if learning organisations are proactive and provide the training needs as they arise.

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### **Abbreviations**

Formative Assessment - FA

Ministry for Education and Employment - MEDE

Directorate for Digital Literacy and Transversal Skills - DDLTS

Assessment for Learning - Afl

National Minimum Curriculum - NMC

A National Curriculum Framework For All - NCF Learning Outcomes Framework - LOF Assessment as Learning - AasL

Continuous Assessment - CA School Development Plan - SDP

Online Teaching and Learning - OTL

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