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. Disseminate the research activities results to all those potential interested in the education field and decision makers;

. Promote the international scientific and professional cooperation between researchers investigating in education.

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Beginning

April 2015 (1st number)

Main theme of the first number

The distances in education (Coordinator Juan Carlos Torre Puente).

Main theme of the second number

Open to others (Coordinator Bart McGettrick).

Main theme of the third number

Justice and mercy in Education (Coordinator Giuseppe Tognon).

Main theme of the fourth number

Reinventing the school: expectations and experiences (Coordinator Joaquim Azevedo).

Main theme of the fifth number

Education: international trends and challenges (Coordinator Joaquim Azevedo).

Main theme of the sixth number

Integral education on digital era (Coordinator Joaquim Azevedo).

Furtherance by

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FAIRE AUX DEFIS DE NOTRE HUMANITE. DYNAMIQUE D'UNE ALIANCE POUR UM MONDE RESPONSABLE ET SOLIDAIRE CHEZ MARIA MONTESSORI A L'ERE NUMERIQUE

Ségolène Le Mouillour [*]

Abstract

It is undoubtedly in the schools for Maria Montessori that the world of tomorrow is being built. On this point, the ideas of the Italian pedagogue are more relevant than ever. Perhaps before the others, Maria Montessori focused on a triple crisis that the world was going through at the end of the 20th century. That of the relationships of men among themselves, that of societies among themselves and finally, that of men in their environment. These three crises are interdependent for the teacher. Are we really out of it? Edgar Morin (1921) several years later, thinker of complexity, speaks for his part of "civilizing the earth", the idea is the same except that the impact of human action on the planet is tenfold. For Morin (2004), man has conquered the land, when will he be taught a sense of responsibility? Our contemporary societies are characterized by speed, management of emergencies, thinking of controlling time with today's digital tools, people are becoming more and more dependent on them. Education policies seem to devote more time and energy to reacting to events rather than preparing for a future which is becoming increasingly difficult to anticipate. With the entry into the Anthropocene, certain problematic foundations of our civilization are questioned. For Maria Montessori, far from digital tools, here the concern was already to challenge man on the meaning of his actions, his link with the world, and on the quest for human values such as Peace. Can his educational philosophy help us today to think about this new universal responsibility which is imposed on us?

Keywords: Education - Digital age - Sensitive intelligence - Peace – Humanity

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Résumé

C'est assurément dans les écoles pour Maria Montessori que se construit le monde de demain. Sur ce point, les idées de la pédagogue italienne sont plus que jamais d'actualité. Peut-être avant les autres, Maria Montessori a mis l'accent sur une triple crise que le monde traversait à la fin du XXème siècle. Celle des rapports des hommes entre eux, celle des sociétés entre elles et enfin, celle des hommes dans leur environnement. Ces trois crises sont interdépendantes pour la pédagogue. En sommes-nous réellement sortis ? Edgar Morin (1921) plusieurs années après, penseur de la complexité, parle de son côté de "*civiliser la terre*", l'idée est la même si ce n'est que l'impact de l'action humaine sur la planète s'est décuplé. Pour Morin (2004), l'homme a conquis la terre, quand lui enseignera-t-on le sens de sa responsabilité ? Nos sociétés contemporaines se caractérisent par la vitesse, la gestion de l'urgence, en pensant maîtriser le temps avec les outils numériques d'aujourd'hui, les hommes en deviennent de plus en plus dépendants. Les politiques éducatives semblent consacrer plus de temps et d'énergie à réagir aux événements plutôt que de préparer un avenir qui devient de plus en plus difficile à anticiper. Avec l'entrée en Anthropocène, certains fondements problématiques de notre civilisation se trouvent questionnés. Pour Maria Montessori, loin des outils numériques, ici, la préoccupation était déjà d'interpeler l'homme sur le sens de ses actions, son lien avec le monde, et sur la quête de valeurs humaines tel que la Paix. Sa philosophie en matière d'éducation peut-elle nous aider aujourd'hui à penser cette nouvelle responsabilité universelle qui s'impose à nous.

Mots clés : Education – Ere du numérique – Intelligence sensible - Paix – Humanité

1. Introduction

«Sans que nous nous en apercevions, un nouvel humain est né, pendant un intervalle bref, celui qui nous sépare des années 1970. Il ou elle n'a plus le même corps, la même espérance de vie, ne communique plus de la même façon, ne perçoit plus le même monde, ne vit plus dans la même nature, n'habite plus le même espace», déclare le professeur Michel Serres dans son essai philosophique *Petite Poucette* en 2012. Face à ce constat, c'est assurément dans les écoles pour la célèbre pédagogue italienne Maria Montessori (1870-1952) que doit se construire le monde de demain. Sur ce point, sa philosophie de l'éducation semble être plus que jamais d'actualité. En effet, peut-être avant les autres ce célèbre médecin éducateur, Montessori, a mis l'accent sur une triple crise que le monde traverse depuis la fin du XXème siècle. Une triple crise, une mutation qui est particulièrement au cœur de nos débats éducatifs et politiques aujourd'hui. Une première crise, celle des rapports des hommes entre eux. Une seconde, celle des sociétés entre elles et enfin une troisième, celle des hommes dans leur environnement. Ces trois crises étaient, déjà qualifiées en son temps, interdépendantes par la pédagogue. Mais en sommes-nous réellement sortis ? Edgar Morin né en 1921, sociologue et philosophe, penseur de la complexité, défend encore aujourd'hui de son côté, un objectif essentiel, celui de "*civiliser la terre*" (Morin, 2004). Les fondements philosophiques et anthropologiques entre ces deux figures de l'humanité et de

l'éducation sont très proches. Depuis Montessori, le temps s'est écoulé et en conséquence l'impact de l'action humaine sur la planète s'est décuplé. Selon le philosophe Morin, l'homme a conquis la terre sans qu'il ait pu être sensibilisé à sa responsabilité sur cette terre. Dans une interview qu'il consacre au journal Ouest France du 19 juillet 2020, le philosophe déclare "*Je suis conscient depuis longtemps que la mondialisation a créé un destin commun pour tous les êtres humains, mais aussi des périls communs comme le nucléaire, les crises environnementales et sanitaires, ou encore l'instabilité économique. Des processus qui entrainent des fanatismes de toutes sortes. On découvre ainsi que, tout en étant interdépendants, il n'y a que peu de solidarité entre les États"*. Pour Montessori, la préoccupation était déjà d'interpeler l'homme sur le sens de ses actions, sur son lien avec l'environnement, sur sa présence à soi et aux autres, et sur la quête de valeurs humaines tel que la paix.

À ce titre, si nous regardons aujourd'hui de plus près les résultats des recherches actuelles sur le développement du cerveau humain et leur prise en compte dans les apprentissages, nous pouvons prendre conscience que Montessori a déjà fait état de recherches sur ce point. La pédagogue a en effet au travers de ses recherches, posé son regard sur ce que nous déclarons, reconnaissons peut-être un peu plus aujourd'hui, à savoir le développement de l'intelligence sensible chez l'enfant. Sans l'usage de technologies complexes qui prennent par exemple, appui sur l'imagerie résonnance magnétique, Montessori a pu observer et constater avec une certaine sensibilité et intelligence, le développement des enfants qui vaquaient à leurs activités sous son regard bienveillant. Aujourd'hui à l'ère du digital, nous constatons toutes et tous, enseignants, éducateurs, qu'une grande majorité des enfants, et ce de plus en plus tôt, sont plus que jamais connectés sur des outils numériques. Ces enfants branchés sur des jouets connectés pour lesquels nous ventons les vertus d'une bonne préparation à l'avenir ainsi qu'un meilleur développement de leur intelligence, tombent peut-être comme leurs éducateurs dans une logique marchande, de ces nouveaux produits qui pourrait se résumer "*au toujours plus de*". Ces usages surdimensionnés des technologies de l'information et de la communication confirment une tendance à l'évanouissement de la mise à l'épreuve que constitue en principe toute véritable rencontre avec Autrui. Nous sommes reliés et hyperconnectés mais toujours susceptibles de pouvoir nous délier de certains contrats moraux (Z. Baumann, 2007). Pour Morin, dans cet article du journal Ouest France du 19 juillet 2020, ajoute "*l'informatique, c'est comme la langue des hommes, elle offre une forme de liberté. Les réseaux sociaux permettent beaucoup d'inventivité, de la folie, du délire, de la méchanceté et de la grossièreté. Ce sont tous les avantages et inconvénients de la liberté*". Dès lors, si nous permettons à nos enfants, à nos élèves, à l'ère du digital, d'être élevés et éduqués par des machines (Love, Sikorski, 2000), nous prenons le risque qu'ils grandissent sans humanité. Pour Morin, "*l'assemblage des différentes pièces d'un Airbus peut difficilement se faire à travers un écran d'ordinateur*", n'est-ce pas la même chose pour l'éducation et la formation de l'homme ? La crise sanitaire Covid 19 que nous traversons actuellement montre combien l'enseignement à distance rencontre ses limites dont l'absence

notamment de liens sociaux, d'une vie communautaire in situ pour les étudiants. Un besoin d'appartenance à un groupe de référence portant des valeurs communes. Rappelons ici, comme a pu l'indiquer Montessori, le potentiel de paix dans le monde jaillit directement de notre propre humanité.

Aujourd'hui (Montessori, 1949), nous disposons d'une organisation des choses mais pas d'une organisation des hommes ou de l'humanité. Nous y voilà, l'humanité doit pouvoir se réorganiser pour éviter l'isolement des hommes, développer leur vie spirituelle et organiser cette humanité par la paix et une prise de conscience collective. C'est ici la tâche assignée à l'éducation, faire confiance en la puissance de la nature humaine, dès l'enfance, développer des compétences sociales et émotionnelles dans un contexte devenu numérique, s'ouvrir ainsi à la civilisation tout en œuvrant pour l'humanité (Montessori, 2003).

En prenant appui sur des écrits de Montessori complétés par des entretiens conduits auprès d'enseignantes d'écoles maternelles et primaires actuellement en pleine *bascule* Montessori dans leur pratique pédagogique, sur des recherches publiées sur la question du rapport au savoir à l'ère du numérique ou encore sur les problématiques soulevées par l'anthropocène, nous tenterons de répondre à la question suivante : Comment à l'ère du numérique, en tant qu'éducateur Montessorien pouvons-nous aider l'enfant à rester connecté à lui-même, aux autres et à son environnement au service d'une humanité retrouvée ?

2. Le numerique dans une ambiance montessori

Le développement des technologies de l'information et de la communication, celui des outils mobiles, l'essor du numérique et des réseaux sociaux ont accéléré les transformations au sein de notre société. Nous sommes entrés en anthropocène, dans une ère digitale qui affecte les écosystèmes et fragilise le tissu solidaire du vivant, dont les répercutions touchent la vie humaine en société (Wallenhorst, 2020). Face à cette place centrale aujourd'hui des outils numériques, la philosophie de l'éducation et de la formation de l'homme, le matériel d'apprentissage et la méthode pédagogique, développés par Montessori en 1907 dans les très célèbres *Casa Dei Bambini* de Rome, continuent de prospérer et d'interpeler aujourd'hui. La technologie ajoutant une nouvelle perspective complexe, des questionnements ou encore des mises en tension à l'approche Montessori de l'apprentissage et du développement humain ont pu être soulevés.

Sur ce chemin, en 2017, le Ministre de l'Éducation Nationale, Monsieur Jean-Michel Blanquer, dans sa circulaire de rentrée, a encouragé les enseignants à accompagner ces changements plutôt qu'à les subir, à développer de nouvelles stratégies pour instruire, éduquer et préparer tous les élèves à devenir des

citoyens libres de la société numérique, à poursuivre leur formation et à progresser tout au long de leur vie dans un monde incertain, complexe et hyperconnecté. À l'ère du numérique à l'école, l'importance d'un environnement préparé pour Maria Montessori nous conduit à mettre tout d'abord en avant, la nécessité d'une formation minutieuse des enseignants aux outils numériques ainsi qu'à leurs usages, afin qu'ils puissent mettre en œuvre avec succès la technologie informatique dans leur salle de classe Montessori. Sur ce point, rares sont les montessoriens interrogés qui défendent aujourd'hui la nécessité de l'intégration d'ordinateurs dans leur salle de classe. Le bon développement de l'enfant de 3 à 4 ans est considéré comme n'étant pas compatible avec l'utilisation trop hâtive des outils numériques. Au cours de la petite enfance, l'enfant est en quête de concret, de manipulation, de vie sociale. Le numérique ne peut en aucun cas apporté, pour ces praticiens, cette part de vie nécessaire aux apprentissages premiers. Les outils numériques peuvent pour ces montessoriens donner l'illusion d'agir avec facilité mais à l'inverse ils augmentent sa dépendance et entravent de façon irrémédiable les capacités propres de l'enfant. En réponse à ces montessoriens interrogés, rappelons ici que Montessori a défendu dans sa philosophie de l'éducation, l'importance du respect des périodes sensibles dans le développement des apprentissages chez l'enfant. Des apprentissages pour lesquels il convient pour la pédagogue de pouvoir proposer en amont une ambiance éducatrice, un environnement adapté aux élèves au sein de la classe. Sur ce point, Love et Sikorski soutiennent pourtant l'idée que la célèbre pédagogue aurait probablement adoptée les outils numériques dans son ambiance éducatrice. Elle aurait en revanche probablement questionné le moment le plus adapté pour présenter ces outils à l'enfant, ainsi que le lieu le plus approprié pour installer ces outils dans un environnement préparé par les soins de la maîtresse au service des apprentissages des enfants. Montessori aurait surtout tenté de comprendre comment les enfants devraient être initiés à ces expériences digitales plutôt que de savoir s'ils devraient être ou non exposés à de tels outils. Les préoccupations des montessoriens interrogés en matière de technologie éducative s'expriment dans un premier temps, par l'insécurité lorsqu'ils rencontrent l'inconnu, et dans un second temps, par des préoccupations quant à la dilution de la pureté de la philosophie et de la méthode Montessori. Ils suggèrent aujourd'hui que les logiciels informatiques peuvent compléter le programme Montessori et permettre à l'enfant de passer à un niveau plus abstrait mais seulement après avoir maîtrisé dans un premier temps le matériel Montessori. Ces logiciels informatiques peuvent être proposés à l'enfant dans cet environnement préparé dans l'extension de leçons préalables. Pour Love et Sikorski, pionnière en matière d'éducation, avec sa méthode naturelle, Montessori, sans aucun doute, intègrerait ces nouvelles technologies dans la *casa dei bambini*, avec pertinence, sagesse, en gardant bien à l'esprit que l'objectif au début de l'éducation de l'enfance est de cultiver le désir naturel d'apprendre chez l'enfant. Grâce à ces nouvelles technologies (Le Mouillour, 2021), à ces nouvelles pratiques en matière de pédagogie, ces nouveaux contenus d'apprentissage, nous pouvons faire évoluer le point de vue de l'ensemble du corps enseignant sur l'usage et les fonctions de ces outils numériques dans le cadre d'apprentissages scolaires. Développer chez ces enseignants de

nouvelles compétences numériques et ainsi dans le même mouvement, les aider à repérer comment l'utilisation de ces nouveaux objets connectés en classe peuvent en retour faire évoluer le regard que peuvent poser les élèves sur leurs enseignants. Repenser mutuellement la relation éducative au travers de nouvelles modalités d'apprentissage. C'est par l'interaction engagée notamment à travers l'usage de ces outils que l'enfant peut ironiquement responsabiliser l'enseignant. Ce dernier a la responsabilité de le préparer pour un monde dont il héritera un jour. La technologie numérique peut donc être qualifiée comme étant une expérience nécessaire qui doit toutefois être repensée, modélisée pour trouver sa place dans une ambiance Montessori.

En réponse à Postman (1992), pour rester fidèle au paradigme Montessori, ajoutons ici que ces nouveaux matériels numériques doivent présenter des caractéristiques éducatives et tendre vers des objectifs précis. En effet, comme le matériel Montessori "classique", ces nouveaux objets connectés doivent répondre à plusieurs caractéristiques bien spécifiques. L'outil doit présenter une séquence d'apprentissage ou un ordre discernable de telle sorte qu'ils puissent apporter du sens à l'enfant et étendre la pensée de ce dernier dans une progression logique. L'outil doit fournir un niveau optimal de stimulation qui engage l'enfant, maintient l'intérêt et la concentration, mais ne submerge pas ou ne se contente pas de divertir. L'outil doit être esthétiquement agréable et beau pour les sens de l'enfant, ainsi que sain, paisible et non violent. Le contenu du programme informatique proposé par l'outil doit être significatif et utile à l'enfant. Il conviendra donc d'en déterminer le moment de sa présentation à l'enfant. L'outil doit être plus axé sur les processus et promouvoir l'exploration, la découverte et l'apprentissage, plutôt qu'être axé sur les produits mettant ainsi l'accent sur la réussite ou l'incapacité à atteindre des résultats. Cet outil doit contenir un bon contrôle de l'erreur, une certaine flexibilité qui permettra à l'enfant d'être auto-dirigé, auto-rythmé et auto-corrigé. A cela s'y ajoute la capacité de l'outil, de promouvoir l'exploration indépendante par l'enfant après la présentation, l'instruction initiale et l'orientation proposées par l'enseignant. L'outil présente plusieurs niveaux de difficulté intégrés en lui. Il doit promouvoir la créativité de l'enfant plutôt que de fournir des informations et les stimuli qui laissent au fond peu de place à l'imaginaire et à l'émergence des idées de l'enfant. L'outil doit mettre l'accent sur la motivation interne plutôt que de promouvoir une dépendance à l'égard du renforcement externe qui peut se traduire par des sonorités, des images, des commentaires positifs et négatifs, interactifs lorsque l'enfant manipule et investit l'outil. Enfin, cet outil complète les apprentissages qui s'engagent, se déroulent dans les autres espaces mis à la disposition de l'élève. Il s'intègre donc dans un environnement riche et préparé.

Au-delà des caractéristiques que doit présenter l'outil numérique dans la pratique montessorienne, pour Maria Montessori en 1949, les hommes que nous éduquerons seront capables d'utiliser leurs pouvoirs divins pour dépasser ceux qui auront fait le choix de confier leur sort aux machines. Il nous faut donc

veiller à un juste équilibre, à un bon dosage de la place que nous concédons en classe à ces outils connectés. En effet, ce qui est indispensable à l'enfant pour la célèbre pédagogue, c'est peut-être avant tout, la foi en la grandeur et la supériorité de l'homme. Puisque les hommes ont réussi à maîtriser les énergies cosmiques traversant l'atmosphère, ils seront bien capables de finir par comprendre que le feu du génie, la perspicacité de l'intelligence et la lumière de la conscience sont également des énergies qui doivent être organisées, régulées, valorisées et utilisées pour une finalité, celle du progrès de la vie sociale. La tolérance est cette capacité à reconnaître l'autre comme mon semblable, digne des mêmes égards, et en même temps, radicalement différent, digne du même respect. Cette question se pose à l'échelle des rapports entre les différentes civilisations et religions. Les enfants qui vivront, percevront le pouvoir de la médiation entre leurs camarades à l'école, et apprendront demain à devenir médiateurs entre les peuples. Montessori était engagée dans la dynamique par l'éducation de la construction d'une alliance pour un monde responsable et solidaire. Il appartient bien pour elle, à son époque, et encore davantage aujourd'hui, aux citoyens de la planète de s'unir, de se mettre en mouvement pour faire face aux défis de notre humanité. Les élèves de France ont ainsi été appelés par le Ministre de l'Éducation Nationale depuis 2015 à devenir des citoyens de France, de l'Europe et du Monde. De l'école au lycée, le parcours citoyen s'adresse à des citoyens en devenir qui prennent conscience de leurs droits, de leurs devoirs, de leurs responsabilités. Adossé aux enseignements, en particulier l'enseignement moral et civique, l'éducation aux médias et à l'information, à l'usage des outils numériques, concourent à la transmission des valeurs et principes de la République en abordant les grands champs de l'éducation à la citoyenneté et du vivre ensemble.

3. Faire oeuvre d'humanité

Parler de responsabilité, de solidarité, nous renvoie tout de suite aux systèmes de valeurs, aux représentations, aux comportements humains. Comment apprendre la coopération et non la compétition? L'homme n'est-il pas animé par la domination, l'irresponsabilité, la simplification, la conquête, le toujours plus, en particulier avec l'usage inconsidéré, non maîtrisé des outils connectés aujourd'hui ? Comment transformer les rapports entre l'homme et son environnement ? La nature humaine peut-elle encore changer ? Toutes ces questions renvoient à la question centrale de l'éducation soulevée par Montessori ou encore d'autres pédagogues du mouvement des écoles nouvelles. C'est par l'éducation que nous allons reconstruire le monde de demain en reliant les hommes entre eux, les sociétés entre elles et enfin, les hommes à l'environnement.

Nous ne pouvons espérer bâtir des rapports harmonieux entre les hommes et leur environnement sans construire dans la même temporalité l'harmonie des rapports entre les hommes eux-mêmes. À l'échelle de l'école, comment les enfants pourraient-ils adopter une attitude de respect à l'égard de

l'environnement naturel s'ils n'adoptent pas la même attitude à l'égard de leurs propres camarades ? Maria Montessori y répond par son approche scientifique, expérimentale du monde, de la pédagogie. L'enfant doit pouvoir tâtonner, découvrir, faire des aller – retour entre ses actions et sa réflexion. Elle recommandait aux éducateurs de donner à l'enfant un travail à faire avec ses mains afin qu'ils puissent travailler avec sa tête. Pour Morin (2004) lorsqu'un système se montre incapable de traiter ses problèmes vitaux, alors, soit il se désintègre, soit il se transforme en un méta-système capable, lui, de traiter ses problèmes. Il est urgent aujourd'hui de permettre à l'enfant à l'école d'appréhender le sens de sa responsabilité. Pour Montessori, encore quelque peu distante de cette ère digitale que nous traversons, il était prioritaire déjà d'interpeler l'homme sur le sens de ses actions, son lien avec le monde et sur la quête des valeurs humaines tel que la paix. Cette capacité personnelle d'être en paix, tant à l'intérieur qu'à l'extérieur, d'être présent intégralement à soi, ne se développe pas de façon spontanée ou automatique à un âge donné. Cette capacité est engendrée dans le cerveau par des expériences de vie commençant avant même la naissance, et elle est ainsi fortement dépendante du milieu et des valeurs qui entourent l'enfant.

En 1932, Montessori, à l'occasion d'un discours prononcé devant l'Office International de l'Éducation à Genève, qui, à cette période, n'était que le centre du mouvement européen pour la paix, elle déclare que l'établissement d'une paix durable est l'objet même de l'éducation, et qu'en conséquence, la responsabilité politique n'est que de nous préserver de la guerre. Le mot paix, annonce ici l'idée d'une réforme sociale constructive au service de tous. La société humaine pour Maria Montessori, ne prépare pas suffisamment l'homme à sa vie de citoyen. Par les méthodes éducatives proposées jusqu'alors, les enfants sont préparés, habitués à satisfaire uniquement leurs besoins immédiats. Comment leur permettre de prendre conscience de la nécessité de définir et de partager des objectifs et des valeurs collectives tout particulièrement à l'ère du numérique aujourd'hui ?

Le rapport de l'Inspection Générale de l'Éducation Nationale de mai 2017, annonçait à ce propos, faire du numérique une opportunité pour faire évoluer la forme scolaire et améliorer la qualité et l'équité de notre système éducatif. À cette affirmation, l'un des montessoriens rencontrés dans le cadre de la recherche, déclare *ne pas y croire du tout*, rappelant ici que Maria Montessori avait elle-même annoncé que l'outil de l'intelligence était la main, et non la souris ! Pour cette praticienne, les récentes découvertes des neurosciences mettent en avant la nécessité de manipuler avec la main, des objets simples et concrets (Le matériel de vie pratique) pour comprendre et appréhender le monde et s'y adapter. Selon elle, les outils numériques offrent un niveau d'abstraction qui est jugé peu utile aux enfants de 3 à 6 ans.

Jusqu'ici (Montessori, 1949), nous avons su organiser notre environnement matériel. Le progrès technique a bien mis en marche une formidable "usine" qui attire les hommes, comme dit-elle, un aimant la limaille de fer. Ce progrès technique les a malheureusement broyés dans ses engrenages. Isolé de son plus proche voisin, de l'humanité, l'homme réagit à ses propres intérêts privés. L'humanité doit selon la pédagogue pouvoir reprendre le contrôle si nous ne voulons pas annoncer la disparition du genre humain. Nous y voilà, l'humanité doit pouvoir s'organiser pour éviter l'isolement des hommes, développer leur vie spirituelle et organiser cette humanité par la paix selon Montessori. C'est ici la tâche de l'éducation, faire confiance en la puissance de la nature humaine, s'ouvrir à la civilisation et œuvrer pour l'humanité. Nous devons croire en l'enfant pour Montessori comme à un messie, un sauveur capable de régénérer la race humaine et la société. Les adultes, les éducateurs doivent faire preuve d'humilité pour pouvoir cheminer aux côtés de l'enfant et croire ainsi au pouvoir de ce dernier qui nous guide vers l'espérance. En s'écartant de l'environnement naturel, l'enseignant s'est aussi éloigné d'un environnement adapté à l'enfant. Il a décuplé ses pouvoirs et a ainsi exercé son plein contrôle sur l'enfant. La personnalité des enfants est radicalement opposée à celles des adultes. L'enfant pour Montessori n'est pas un adulte en miniature, il est enfant, lui-même, avec les caractéristiques de sa nature qui font qu'il ne peut être l'autre, et que lui seul peut se réaliser et incarner sa personnalité humaine. La méthode proposée par Montessori amène l'enfant à maîtriser de façon progressive son corps, à se concentrer sur ses facultés, le préparant ainsi à une vie consciente. Par l'acquisition de connaissances et d'habitudes personnellement vécues, elle guide l'esprit dans les voies du savoir et de la sagesse (Montessori, 1956).

L'éducateur ne comprend pas l'enfant qui est présent sous ses yeux. Prend-t-il le temps de le découvrir, de l'observer, de le rejoindre dans son esprit, dans son corps, dans son cœur ? Les adultes pour Montessori luttent contre leurs enfants au lieu de les aider dans leur mission divine. Dans les écoles proposées par la pédagogue, elle a créé un milieu qui répond également aux besoins de développement spirituel. En observant les enfants à agir dans ce nouvel environnement, elle a noté leur amour passionné pour l'ordre et le travail. Elle témoigne également de capacités intellectuelles supérieures à celles qu'ils étaient censés avoir. Pour Montessori (Montessori, 1949), dans cet environnement l'enfant n'a pas recourt instinctivement à la dissimulation, il ne cache pas ses aptitudes, ses questionnements, ses incompréhensions, il ne cherche pas à répondre aux attentes de l'adulte. Il construit réellement à son rythme son autonomie. Pour les montessoriens rencontrés, les outils numériques donnent l'illusion à l'enfant d'agir avec facilité mais à l'inverse ils augmentent sa dépendance et entravent de façon irrémédiable ses capacités propres. A l'inverse, les ambiances Montessori, sans présence numérique, conditionnent la façon de penser notre présence à l'autre, au matériel, à soi, au monde, à la culture, à la nature…Car le propre de l'éducation montessorienne pour les montessoriens rencontrés, est d'éveiller, c'est-à-dire qu'elle veille à développer la condition de chaque personne au service de son humanité.

Actualisons ces idées. Le 16 mars 2020, les écoles, la société, françaises, comme tant d'autres dans le monde, se retrouvaient être mises à l'arrêt compte-tenu d'urgences sanitaires liées au développement de la Covid-19. Du jour au lendemain, au niveau éducatif, les écoles ont fermé, les parents ont été consignés à domicile, en télétravail pour une large majorité. Les enfants également contraints de rester eux aussi à la maison et de se conformer à un nouveau rythme de vie, à d'autres manières d'apprendre et d'interagir avec le monde extérieur (la famille, les camarades de classe…). Dès ce premier jour de confinement, les écoles Montessori comme les autres, ont dû relever un grand défi, celui d'adapter leur pédagogie à l'enseignement à distance. Aucune alternative n'était envisageable, il fallait poursuivre l'accompagnement des élèves sans ce lien physique, si précieux, sans échange spontané, ni observation en situations d'apprentissages. Un vrai pari pour ces équipes pédagogiques rencontrées, formées au suivi en live et individuel des enfants sur le terrain. Comment ont-ils réussi à garder l'essence de la philosophie Montessori tout en étant contraint de rester à distance ?

Se détacher de la technique et du matériel, pour se focaliser sur la philosophie et créer un nouvel environnement préparé, basé sur une observation attentive et à distance de chaque enfant, avec l'aide des parents. Pour certaines écoles, il s'est principalement agit de proposer aux parents du travail sur l'autonomie, la manipulation sensorielle et de ne pas laisser les enfants et les familles livrés à eux-mêmes, de les accompagner jusqu'au bout dans cette situation de crise, si anxiogène et déstabilisante, lorsque les repères bougent du jour au lendemain. Plusieurs enseignantes expliquent que la relation en binôme avec chaque enfant a permis de mesurer une nouvelle fois la qualité et l'importance de la relation individuelle construite en amont, permettant ainsi de poursuivre le travail adapté aux individualités et spécificités de chacun d'entre eux. Cette pédagogie qui déclare préparer les enfants à s'adapter, qui renforce leur autonomie et leur confiance en eux, a aussi été une force pour leur permettre de poursuivre leur développement sans venir à l'école. Ainsi, des enfants de 3 à 6 ans, qui ont acquis une capacité de concentration autonome, ont permis aux enseignantes de conduire à bien des échanges individuels sur des plateformes, sur des temps relativement longs et parfois même sans la présence d'un adulte à leur côté. Une autonomie qui a ainsi facilité l'accompagnement des apprentissages à distance. L'absence du milieu de vie sociale de l'enfant s'est fait sentir et, au cours des premières semaines, les enseignantes montessoriennes ont parfois pris l'initiative de réunir toute leur classe pour une séance à distance. Les enfants satisfaits de se retrouver ont alors découvert le plaisir d'une coopération virtuelle au service d'échanges sur leurs projets, leurs recherches, la manière dont ils avaient fabriqué eux-mêmes le matériel de la classe… Une vraie dynamique s'est très vite engagée. D'une manière générale, l'individualité, la concentration, l'écoute, l'adaptation, la création, valeurs chères à la célèbre pédagogue ont été un véritable atout. La valeur qui selon les enseignantes et directrices de ces écoles a vraiment traversé toute cette première période de confinement et certainement celles qui ont suivi, a été celle de la confiance de l'enfant. Notons que cette expérience nouvelle, de l'accompagnement à distance

des enfants, aura permis d'innover en matière de communication avec les parents, et certains des outils qui ont été mis en place perdurent dans le temps, ils ont pu renforcer à long terme la coéducation et ainsi le lien entre l'école et la maison.

4. Revelons de défi!

Deux choses sont essentielles pour développer la paix dans le monde selon Montessori. La création d'un homme nouveau, l'avènement au fond d'un homme meilleur. La construction d'un environnement qui ne doit plus fixer les limites aux aspirations infinies de l'homme. Pour unir tous les hommes comme des frères, nous devrions démanteler toutes les barrières, en sorte que tous les êtres humains du monde entier soient comme des enfants jouant dans un même et vaste jardin. Cette conquête ouvre un horizon si vaste qu'elle nécessite la coopération de toute l'humanité, seul cet amour de l'humanité forgera vraiment l'unité humaine dans ce monde animé par cette conquête du plus, de l'infini, renforcée par l'avènement des nouvelles technologiques et de l'univers numérique. Une éducation intégrale, une éducation à la paix, ne saurait se réduire finalement à un enseignement donné dans les écoles. C'est une tâche qui demande des efforts de toute l'humanité. Son but n'est pas moins qu'une réforme universelle qui permettra le développement intérieur de la personne humaine, qui donnera à chacun une conscience plus claire de la mission de l'humanité et qui favorisera l'amélioration de la situation sociale. Ces objectifs s'imposent non seulement parce que l'homme reste largement ignorant de sa propre nature, mais encore parce que la plupart des gens ignorent tout, des mécanismes sociaux dont dépendent leurs propres intérêts, voire leur survie à court terme. Montessori (1956) définit sa méthode par la maîtrise progressive du corps et la concentration des facultés qui prépare l'enfant à une vie consciente ; par l'acquisition de connaissances et d'habitudes personnellement vécues, elle guide l'esprit dans les voies du savoir et de la sagesse. Aujourd'hui nous sommes quasiment toutes et tous en contact les uns avec les autres. Grâce aux outils numériques, l'information circule d'un bout à l'autre de notre planète, ne prenant plus en compte les frontières. Des entités partageant les mêmes idées se forment ici et là à travers le monde. Les outils numériques pour les montessoriens questionnés pour cette étude, conditionnent la façon de penser de l'homme. Les enfants peuvent avoir le sentiment de devenir les maîtres du monde ou au contraire se comparer aux autres et être désespérés ; devenir des influenceurs ou des soumis ; devenir des sur consommateurs avides, en pertes de repères par rapport au temps, à l'espace, à la vérité (fakenews) et devenir enfin des êtres désengagés déshumanisés (Le Mouillour, 2021). Il s'agit de muter en devenant davantage humains, non par l'accomplissement de prouesses techniques, mais dans la mise en partage de nos existences, entre nous et avec le non-humain (Wallenhorst, 2020). Notre époque disait Montessori en 1949, traverse une phase d'ajustement à nos conditions matérielles d'existence qui se sont profondément transformées. Sommes – nous encore capables de maitriser notre environnement matériel tel que la célèbre pédagogue le réclamait dans la

méthode qu'elle a pu défendre ? L'éducation, l'humanité sont au fond les meilleures armes pour la paix. Pour Montessori (1943) "l'avenir de l'humanité dépend de notre courage et de notre persévérance à en faire usage". Notre monde a été déchiré et il est besoin de le reconstruire, déclarait déjà Montessori dans son ouvrage intitulé *Éducation pour un monde nouveau* (Conférences données par Maria Montessori à New Delhi en Inde en 1943), et le premier facteur de cette reconstruction est l'éducation. Ajoutant dans ces propos introductifs, que les hommes ne sont pas suffisamment éduqués pour contrôler les événements, aussi en sont-ils devenus les premières victimes. L'éducation ne peut continuer à se restreindre à la simple transmission du savoir, elle doit s'engager au plus vite dans une nouvelle voie en s'adressant à celui qui seul peut nous guider vers un *avenir plus lumineux*, l'enfant. L'éducation, ajoute Montessori dans cet ouvrage, est un processus naturel qui se développe spontanément dans l'individu humain et s'acquiert, non en écoutant des mots, mais en faisant des expériences sur l'ambiance. Nous revenons ici sur le rôle essentiel du maître préparateur d'un laboratoire de pédagogie pratique. L'homme de demain pour Montessori doit avoir une vision claire pour diriger et modeler la société humaine qu'il laissera à ses propres enfants.

Pour penser l'homme de demain, la société humaine, Montessori nous rappelle par ailleurs que de tous les animaux, l'homme est le plus capable d'adaptation à n'importe quel climat. Il est capable d'une grande variété de mouvements que nul autre animal n'a jamais été capable de faire. Une liberté de mouvements qu'il convient d'éduquer dès sa naissance, étant entendu que la période de l'enfance semble être réservée à ce travail d'adaptation à l'environnement. Pour Montessori, cet être qui est né impuissant, incapable de mouvement, doit être doté d'un comportement qui le conduit vers le mouvement. Au préalable, il lui faut développer ses facultés psychiques et ce, en accord avec l'environnement et les conditions changeantes d'une société humaine en évolution. L'intelligence de l'enfant doit donc ainsi commencer par observer et étudier cet environnement avant de se mettre à construire ses organes particuliers. La première période de développement est alors réservée chez Montessori à stocker des impressions en provenance de l'ambiance dans laquelle l'enfant est plongé. Le comportement humain, les pouvoirs de l'homme doivent trouver leur expression dans la mise en relation, la mise en mouvement du corps et de l'esprit. Nous ne pouvons séparer ce que la nature a uni. La vie physique et la vie mentale sont interdépendantes l'une de l'autre. Tous les hommes ajoute Montessori font la même chose avec leurs pieds, mais pas avec leurs mains, mains dont personne ne connaît les limites d'activité. L'homme pense et agit avec ses mains et depuis les temps les plus anciens, il a laissé et laisse encore des traces de son travail, plus ou moins grossières ou raffinées. C'est parce que les mains ont accompagné l'intelligence que la civilisation s'est bâtie, aussi peut-on bien dire que la main est l'organe par lequel cet immense trésor a été donné à l'homme. Quelle place, quelle liberté, avons-nous donné à ces mouvements, à ces mains dans l'éducation des enfants appelés à devenir des adultes responsables et solidaires ? Comment alors s'attendre à ce qu'ils puissent assumer leurs droits

inhérents à cette liberté d'expression et à s'en servir ? Pour Montessori dès 1948 les élèves Montessori de douze ans sont fin prêts à se lancer dans l'aventure de la vie, habitués qu'ils sont à exercer librement leur volonté et leur esprit critique, guidés par l'imagination et l'enthousiasme. Seuls de tels élèves selon la pédagogue peuvent remplir pleinement leur devoir de citoyens dans une communauté civile. Le secret de la réussite pour Montessori réside en la capacité du maître, de l'environnement préparé à savoir stimuler avec intelligence, l'imagination de l'enfant pour ensuite éveiller l'intérêt dans son esprit, y faire germer les graines qui y auront été semées, toujours en relation avec une source d'inspiration centrale, le plan cosmique, dans lequel tout élément, consciemment ou inconsciemment, contribue au grand objectif de la vie. Pour la pédagogue, l'éducation doit questionner la position de l'homme dans le cosmos et dans la société. Présentée pour la première fois en Angleterre en 1935, l'éducation cosmique de Montessori (2003), est le seul chemin sur lequel nous pouvons avancer de manière fiable dans nos recherches pédagogiques. Dès six ans, le développement de la conscience est considérable et celle-ci, si elle s'était éveillée auparavant, se tourne maintenant en particulier vers l'extérieur. L'enfant demande plus que jamais à saisir le sens intelligible des choses. Il convient donc de semer le plus de graines possibles, en lui proposant d'investir le champ immense de la culture, en suscitant chez lui autant de centres d'intérêt que possible. Articuler à cette ouverture culturelle sur l'histoire merveilleuse de la terre, de la vie et celle de l'humanité, l'enfant explore dans le même mouvement, l'univers moral et son envie de distinguer le Bien du Mal. Ce dernier souhaite désormais comprendre seul, sans être contraint d'absorber passivement les impressions, ni de constater des faits. Il souhaite pouvoir affirmer son propre jugement. Enfin, troisième idée intéressante, l'enfant de cet âge exprime un nouveau besoin, celui de rejoindre un collectif et d'y être associé. Toutes les ouvertures culturelles sur le cosmos et la société dans ce cosmos permettront à l'enfant d'élargir sa conception et ses idées sur le monde. Enseignant et élève marcheront ensemble sur ce chemin de la vie, car toutes les choses font partie de l'univers et sont reliées entre elles pour former un tout unique, ils tenteront d'identifier des éléments de réponse à ces interrogations : Qui suis-je ? Quel est le rôle de l'homme dans cet univers merveilleux ? Vivons-nous seulement pour nous-mêmes ou avons-nous une tâche plus élevée ? Pourquoi lutter et se battre ?

Au cours des conférences sur le plan cosmique qui se sont tenues en Inde en 1943, Montessori annonce que l'humanité elle-même n'est autre qu'un ensemble organique qui est en train de naître. Comme les organes du corps, les différentes civilisations se sont d'abord développées séparément pour se renforcer avant d'entrer dans un second temps en relation, pour penser l'organisation de la communication entre les hommes. Dans ce sens, la cruauté et l'exploitation humaine, les guerres et toute autre forme de violence, selon Montessori, ont pu mettre en lumière l'incompréhension, la non prise de conscience chez les hommes de leur humanité commune. Une œuvre à accomplir ensemble pour la réalisation d'un destin cosmique partagé. Les forces qui bouleversent le monde actuel selon Montessori, en 1943,

exigent que nous prenions en compte l'unité de l'humanité avec la plus grande urgence. L'œuvre de l'enseignant, qui n'agirait ni comme un tyran ni comme un missionnaire, mais comme un guide essentiel des nouvelles générations semble dès lors s'imposer. Par l'éducation des enfants, des hommes de demain, se mobiliser pour la vie et non pour la mort de ces derniers. Parce que notre société a mis en danger la survie de notre planète, et peut-être de l'univers entier par son mépris des lois naturelles, la conception de Montessori de la nature est d'un grand intérêt pour nos contemporains. Le lien réciproque entre l'homme et la nature est d'ordre physique et spirituel (Polk Lillard, 1984). Montessori déclarait dans *L'enfant* (1936), "A notre époque et dans l'ambiance civilisée de notre société, les enfants sont élevés à l'écart de la nature et n'entretiennent pas avec elle, des relations directes et intimes…nous nous sommes constitués volontairement prisonniers et nous avons fini par aimer notre geôle au point d'y enfermer nos propres enfants". Les enseignants chez Montessori se voient confier des pouvoirs immenses auxquels ils ne peuvent se soustraire.

5. L'envoi

En écho à Montessori, Wallenhorst (2019) pointe l'une des importantes caractéristiques de nos sociétés contemporaines, à savoir que la vitesse et la gestion de l'urgence semblent parfois plus valorisées que la durée. En pensant maîtriser le temps avec les outils numériques d'aujourd'hui, ils en deviennent finalement plus que jamais dépendants. Les politiques notamment éducatives consacrent actuellement plus de temps, d'énergie à réagir aux événements plutôt que de préparer un avenir qui devient de plus en plus difficile à anticiper. La gestion de la crise du Covid 19 que nous traversons en est un bon exemple, un bon exercice de pédagogie pratique. Et pourtant, l'avenir est bien ce qui détermine le politique, il est l'un des enjeux majeurs de la responsabilité en politique. Avec l'entrée en Anthropocène, certains fondements problématiques de notre civilisation se trouvent questionnés. Une nouvelle responsabilité universelle s'impose à nous, étonnement après avoir connu trois siècles marqués par l'abondance, l'accélération, nous entrons par force dans une période marquée par l'incertitude et une diminution de nos capacités d'action (Bourg, 2013). Nous entrons dans une période qui sera davantage marquée par l'incertitude, la finitude et qui nous conduira à nous unir, à nous soutenir, pour faire face à la chute de nos organisations économiques, sociales, culturelles. Il est peut-être temps d'interroger comment à l'ère du numérique dans nos institutions éducatives nous pouvons penser et construire ensemble, responsables politiques, enfants et éducateurs, des connaissances sur l'homme et l'humanité au service d'un avenir responsable et solidaire. L'enfant est peut-être celui que nous devrions commencer comme le disait Montessori, à observer, à écouter, à suivre…

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CUANDO IR AL COLEGIO YA NO ES POSIBLE: LUCES Y SOMBRAS DE LA UTILIZACION DE LA TECNOLOGIA EN LA EDUCACION EN ENTORNOS SOCIALES VULNERABLES DURANTE LA PANDEMIA COVID-19

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Abstract.

This work addresses the positive and negative aspects of the use of online teaching technologies with students living in environments of poverty during the Covid-19 pandemic. It analyzes the perception of the professionals in 34 socio-educational entities that carry out the program CaixaProInfancia to Fight Child Poverty in Madrid, specifically in its subprograms for Educational Reinforcement and Non-Formal Education. Quantitative and qualitative information was collected and analyzed using the Excel and NVivo 12.0 programs. The results show the positive impact of online technologies in the intensification of contact with children and their families, the detection of their needs and the provision of emotional support. However, there is evidence of the worsening of the already existing digital divide, due to the lack of technical resources, connectivity and / or skills. The socio-educational entities have made an effort to adapt and have acted as mediators and liaison between the educational centers and the children and their families.

Keywords: Education, Technology, Social Vulnerability, Poverty, Covid-19

Resumo

El presente trabajo aborda los aspectos positivos y negativos del empleo de las tecnologías de enseñanza online con estudiantes que viven en entornos de pobreza durante la pandemia Covid-19. Analiza la percepción de los profesionales de las 34 entidades socioeducativas de Madrid que desarrollan el Programa CaixaProInfancia de Lucha contra la Pobreza Infantil, en sus subprogramas de Refuerzo Educativo y

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Educación No Formal y Tiempo Libre. Se recogió información cuantitativa y cualitativa analizada mediante los programas Excel y NVivo 12.0. Los resultados muestran el impacto positivo de las tecnologías online en la intensificación del contacto con los menores y sus familias, la detección de sus necesidades y el apoyo emocional. Sin embargo, se evidencia el agravamiento de la brecha digital ya existente debida a la falta de medios, conectividad y/o competencias. Las entidades socioeducativas han realizado un esfuerzo de adaptación y han actuado como mediadoras y enlace entre los centros educativos y los menores y sus familias.

Palabras clave: Educación, Tecnología, Vulnerabilidad Social, Pobreza, Covid-19

Introducción

En el mes de marzo de 2020 se intensificó en España la incidencia del virus Covid-19. La gravedad de la situación sanitaria llevó al gobierno a la declaración del estado de alarma, mediante el Real Decreto 463/2020 de 14 de marzo que, en su artículo 9, ordenaba "la suspensión de la actividad educativa presencial en todos los centros y etapas…así como cualesquiera otras actividades educativas o de formación impartidas en centros públicos o privados" y en su sección 2 señalaba que "durante el período de suspensión se mantendrán las actividades educativas a través de las modalidades a distancia y on-line, siempre que resulte posible".

El confinamiento domiciliario estricto y la aplicación de suspensión de la docencia presencial se prolongó hasta el 21 de junio, durante 98 días, abarcando el tiempo restante del curso escolar 2019-2020. Todas las actividades educativas tuvieron que desarrollarse de forma telemática de forma inmediata y simultánea en todos los niveles formativos.

Los centros educativos realizaron un enorme esfuerzo de adaptación a este nuevo escenario, utilizando todos los recursos y medios tecnológicos a su alcance con el objetivo de continuar la actividad docente y lograr que los alumnos pudieran completar el curso académico con relativa normalidad. Tuvieron que afrontar muchas dificultades tanto para movilizar los recursos y medios técnicos necesarios, como para coordinar y apoyar al conjunto del profesorado que, confinado en sus domicilios, tuvo que adaptar sus metodologías a un formato de no presencialidad en apenas unas horas. Todo ello en el contexto de un país inmerso en un clima de vulnerabilidad y temor ante el imparable avance de la pandemia.

Desde los primeros momentos, se hizo evidente que no todos los centros ni todos los alumnos tenían las mismas posibilidades y recursos para afrontar la nueva situación afectando de forma directa a la calidad y el progreso del proceso de aprendizaje. Era preciso disponer de ordenadores, tabletas y móviles, de conexión a Internet, y de competencias digitales para desenvolverse en un entorno telemático. La realidad era que la disponibilidad de estos medios no era suficiente.

Los datos ofrecidos por el Instituto Nacional de Estadística en 2019 indicaban que el 11% de los menores de 15 años no tenía acceso a un ordenador. Este porcentaje se eleva al 30% cuando se trataba de niños y niñas con pocos recursos económicos (Kids online, 2018). Según datos de Zubillaga y Gortázar (2020), en el nivel socioeconómico bajo, un 44% de las familias sólo tiene un ordenador en casa que tienen que compartir varios miembros, mientras que el 61% del grupo socioeconómico alto tiene tres o más ordenadores en casa.

El 82% de las viviendas de familias monoparentales con algún hijo tienen algún ordenador en casa, de lo que se desprende que un 18% no lo tiene, es decir que existen 343.624 niños y niñas de estos hogares que no tienen ordenador en casa. Hay un 93,1% de hogares con pareja y al menos un niño o niña, que tienen un ordenador en casa, lo que indica que un 6,9% no lo tiene, es decir que, en términos absolutos, 448. 425 niños y niñas no tienen ordenador en casa. En suma, según estos datos, hay un total de 792.049 hogares en España de familias con niños y niñas sin ordenador en casa (Cabrera, 2020).

Como señala este autor "todas las encuestas producen información que avala que los hogares con más rentas, más estatus y ubicados en determinadas Comunidades Autónomas, marcan situaciones evidentes de desigualdad en tenencia de ordenadores en sus hogares, de conexión a Internet y de tableta. Ratifican, en consecuencia, las afecciones diferenciales y desigualdades del cierre de los centros escolares" (Cabrera, 2020, p.125)

Respecto a los centros educativos, el informe COTEC (2020) analiza los resultados del informe PISA 2018 en relación con el equipamiento y preparación de escuelas y docentes y señala que el 52% de los centros educativos españoles cuenta con una plataforma digital eficaz para proporcionar a sus alumnos educación en línea, un porcentaje similar a la media de la Organización para la Cooperación y el Desarrollo Económicos (OCDE), aunque inferior a otros países como Finlandia (80%), Estados Unidos (77%) o Reino Unido (66%).

Sobre las competencias digitales del profesorado, el informe indica que el 53% de los directores de centros consideraba que el profesorado a su cargo tenía las habilidades técnicas y pedagógicas necesarias para "integrar dispositivos digitales en la enseñanza" y que el 55% contaba con "recursos profesionales eficaces para aprender a utilizarlos", estos datos son inferiores a la media de la OCDE que alcanza el 65% en los dos criterios.

Sin embargo, las conclusiones del análisis realizado destacan que las mayores diferencias en estos aspectos entre los centros escolares vienen determinadas, no por el territorio o el nivel socioeconómico

de las familias, sino sobre todo por el tipo de titularidad de los centros que deja en clara desventaja a los centros educativos públicos: el 49% de los directores de centros públicos y el 55% de los directores de centros concertados consideran que su centro cuenta con una plataforma adecuada para la enseñanza online, frente al 71% de los directores de centros privados.

A las dificultades derivadas de los recursos telemáticos insuficientes hay que añadir otras relativas a las insuficientes competencias digitales y, sobre todo, al capital económico, cultural y social de las familias. Este factor resultó ser clave en la capacidad de los estudiantes para adaptarse al nuevo contexto educativo en el período de confinamiento (Bonal y González, 2020; Kardelis et al., 2021).

Además, para las familias con mayores capacidades, la situación de confinamiento, aun dentro de las difíciles circunstancias, pudo aportarles experiencias positivas como resultado del trabajo conjunto en el apoyo educativo a los menores y el fortalecimiento de los vínculos familiares. Para las familias con menos recursos, el seguimiento educativo se convirtió en una fuente de estrés sumado a las dificultades propias del confinamiento y sus consecuencias económicas y sociales, por lo que los estudiantes de estas familias tienen menos apoyo y corren el riesgo de quedarse atrás (UNESCO, 2020)

Es un hecho que a medida que los sistemas educativos dan más relevancia a la formación online y se apoyan más en los recursos telemáticos, se corre el riesgo de que la igualdad de oportunidades que el sistema educativo debe garantizar se vea amenazada. Esta consecuencia entra en choque con el Objetivo 4 de la Agenda 2030 para el Desarrollo Sostenible que señala el "compromiso de la comunidad internacional para garantizar una educación inclusiva y equitativa de calidad" resaltando que la equidad y la inclusión son objetivos en sí mismas y que "ninguna meta educativa debería considerarse lograda a menos que se haya logrado para todos". Por lo tanto, es esencial prestar especial atención a las circunstancias específicas de los niños, niñas y adolescentes que viven situaciones de vulnerabilidad social y económica y prestarles el apoyo necesario para que puedan desarrollarse educativamente en el nuevo escenario virtual surgido tras la pandemia del Covid-19.

En el caso de España, la incidencia de la pobreza infantil es un grave problema. Los datos son preocupantes desde la crisis del 2008 hasta la actualidad. En el año 2019 se registró un repunte en las tasas de pobreza alta, severa y moderada, mientras que cae en el resto de los grupos de edad. El nivel de pobreza moderada alcanza 21,7% en el nivel de pobreza moderada tal como se puede apreciar en la Figura 1:

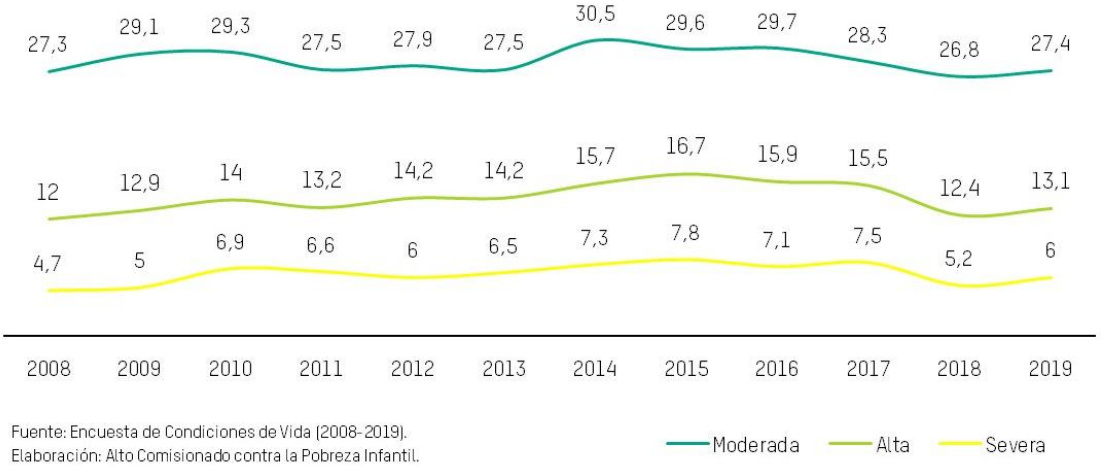

Figura 1. Tasas de riesgo de pobreza infantil en España (2008-2019)
Fuente: Encuesta de Condiciones de vida (2008-2019). Elaboración: Alto Comisionado contra la Pobreza Infantil.

La incidencia de la pandemia de Covid-19 tendrá sin duda, un resultado de agravamiento de esta situación, debido a los efectos del confinamiento y las medidas restrictivas en el empleo y la renta de los hogares. Los últimos datos sobre incidencia del paro en España en enero de 2021 indican que 3.964.353 de personas están en paro, en torno a un 20,8% de la población, y que unas 738.969 personas, aunque constando como trabajadores en activo, en realidad están acogidos a Expedientes Reguladores de Empleo Temporal (ERTES) con reducción de ingresos y a la espera de reincorporarse a su trabajo en condiciones de normalidad, en la medida en que lo permita la grave destrucción de tejido empresarial que la pandemia ha producido.

Entre las diversas iniciativas desarrolladas para apoyar y proteger a la infancia en situación de pobreza se encuentra el Programa CaixaProinfancia. Se trata de un programa de carácter socioeducativo financiado por la Fundación "la Caixa" que desde su inicio en 2007 ha realizado una inversión total de 400 millones de euros en diversos programas de atención a niños, niñas, adolescentes y sus familias. Se dirige a familias con menores de entre 0 y 18 años en situación de pobreza y exclusión social susceptibles de estar o que están en proceso de atención y/o acompañamiento social y presentan carencias en sus necesidades sociales.

En la actualidad, el programa se desarrolla en 134 municipios y cuenta con el trabajo de más de 400 entidades prestadoras sociales organizadas en 177 redes territoriales de atención. Durante el año 2019 atendió a 57.000 niños y niñas y 6.800 familias.

Según datos del propio programa, en más de la mitad de los casos (57%), el sustentador principal carece de estudios, cuatro de cada diez son familias monoparentales, seis de cada diez tienen su sustentador

principal en situación de paro y, de ellas, algo más de una de cada cuatro (27%) no percibe ninguna prestación económica de ayuda económica pública.

Entre sus objetivos están la promoción del desarrollo social y educativo de la infancia y adolescencia en su contexto familiar, escolar y social, el desarrollo de competencias que mejoren los procesos de integración social y autonomía y la atención a través de una acción social y educativa integral que mejore las oportunidades de desarrollo social y educativo de la infancia y sus familias (Fundación La Caixa, 2021). Frente al "círculo vicioso" de la pobreza y la exclusión, se propone acentuar el "círculo virtuoso" de potenciar a la familia, las acciones socioeducativas y su relación en red con el entorno social local y global.

La estructura de subprogramas y servicios del programa se recoge en la Tabla I.

Para el objetivo de este trabajo, los subprogramas de Refuerzo Educativo y de Educación no Formal y Tiempo Libre son los más relevantes, por estar directamente relacionados con la situación escolar de los niños, niñas y adolescentes durante el período de confinamiento por el Covid-19. Estos dos subprogramas constituyen una oferta socioeducativa amplia fuera del horario escolar cuyo objetivo es potenciar al máximo las competencias personales, el aprendizaje y el desarrollo integral de los niños y las niñas.

De acuerdo con los datos sobre rendimiento académico de PISA que maneja CaixaProinfancia, el 53% de los alumnos españoles de los estratos sociales más bajos no promociona adecuadamente, es decir, que menos de la mitad (47%) está en el curso que le corresponde por su edad. En los niños y niñas atendidos por el programa, esta proporción aumenta hasta el 92% para los que progresan de Educación Primara y Educación de Primaria a Secundaria y hasta el 73% entre los que promocionan desde la Educación Secundaria Obligatoria a niveles educativos superiores.

Tabla I. Subprogramas y Servicios del programa CaixaProinfancia

SUBPROGRAMAS	CARTERA DE SERVICIOS
Refuerzo Educativo	Grupos de Estudio Asistido
	Refuerzo Individual
	Aula Abierta
	Logopedia
	Psicomotricidad
	Equipamiento Escolar

Educación no Formal y Tiempo Libre	Centro Abierto Campamentos Colonias urbanas Actividades de Verano
Apoyo Educativo-Familiar	Talleres educativos familiares Programa Materno-Infantil
Atención Terapéutica	Apoyo psicológico individual y/o familiar Grupos terapéuticos
Promoción de la Salud.	Alimentación e Higiene infantil Gafas y Audífonos

El presente trabajo reflexiona sobre las implicaciones de la utilización de las tecnologías de enseñanza online en el desarrollo de la acción educativa con estudiantes que viven en entornos de pobreza y vulnerabilidad social. Trata de identificar los aspectos positivos y negativos de su utilización durante la pandemia Covid-19 desde el punto de vista de los profesionales que desarrollan el Programa CaixaProInfancia de lucha contra la pobreza infantil.

2. Metodología

2.1. Participantes

En esta investigación han participado las entidades que prestan servicios socioeducativos a los niños y niñas y sus familias en colaboración con el proyecto Caixa Proinfancia en la Comunidad de Madrid (España). En concreto han participado los profesionales de Educación y Trabajo Social de las 34 organizaciones no gubernamentales del programa en Madrid. Estas entidades actúan trabajando en 8 redes de atención en los lugares con mayores niveles de pobreza de la Comunidad. En cada una de las redes existe una entidad coordinadora y un grupo de entidades que prestan servicios dentro de la red. Son las siguientes:

- Norte 1: Distrito Fuencarral
- Coordinadora: Fundación Valdeperales; Colaboradoras: Fundación Villena La Salle, Save The Children y Fundación Valsé.
- Norte 2: Distrito Tetuán
- Coordinadora: Asociación Pinardi; Colaboradoras: Fundación para la convicencia Aspacia, Cáritas Diocesana de Madrid, Fundación Valsé, Fundación Amoverse y Asociación Valponasca.
- Sur: Distritos de Usera y Villaverde

- Coordinadora: Fundación Tomillo; Colaboradoras: Asociación Educación, Cultura y Solidaridad, Acais Comunidad y Desarrollo, S.Coop. Mad., Cáritas Diocesana de Madrid, Fundación Secretariado Gitano y Asociación Alucinos La Salle.
- Sureste: Distrito Puente de Vallecas
- Coordinadora: Coordinadora Tiempo Libre de Vallecas; Colaboradoras: Asociación CEPA, Asociación Cultural La Kalle, Asociación Krecer, Asociación Primera Prevención, Asociación San Pablo, Asociación Sandi, Fundación Amoverse, Fundación Naif, Parroquia Sta. Maria del Pozo, Asociación Citycentro, Asociación Barró, Fundación José María de Llanos, Cáritas Diocesana de Madrid, Fundación Secretariado Gitano, Fundación Tomillo y Save The Children.
- Suroeste: Distritos Carabanchel y Latina
- Coordinadora: Redes Sociedad Cooperativa; Colaboradoras: Cáritas Diocesana de Madrid, Fundación Tomillo, YMCA, Fundación Secretariado Gitano, Asociación Pinardi, Asociación Madres Solteras, Asociación Nazaret, M. Madres Escolapias Paula Montal, Save The Children y Asociación para el Desarrollo del Plan Comunitario de Carabanchel Alto.
- Este: Distritos Ciudad Lineal y San Blas
- Coordinadora: Cáritas Diocesana de Madrid; Colaboradoras: Fundación Tomillo, Save The Children, Asociación Achalay España, Asociación Barró Asociación La Rueca, Fundación Amigó y Fundación Valsé.
- Cañada Real Galiana: Asentamiento con altos niveles de pobreza.
- Coordinadora: Cáritas Diocesana de Madrid; Colaboradoras: Fundación Secretariado Gitano y Asociación El Fanal.
- Madrid Metropolitana: Getafe, Fuenlabrada, Leganés y Parla
- Coordinadora: Save The Children; Colaboradoras: Asociación YUNA, Asociación Pinardi y YMCA.
- En el año 2019-2020, el programa CaixaProinfancia atendió en la ciudad de Madrid a 6.407 niños y sus familias. Su inversión global es de cerca de 6 millones de euros anuales en sus distintos subprogramas en Madrid.

Los subprogramas específicos que desarrolla el Programa CaixaProinfancia relacionados con el apoyo al desarrollo educativo de los niños son:

- Refuerzo educativo: integra el conjunto de acciones, servicios y acceso a bienes que promueven la inclusión y el éxito escolar, incorpora actividades de refuerzo educativo, ayudas de equipamiento escolar, logopedia y psicomotricidad.
- Educación no formal y tiempo libre: integra el conjunto de acciones, servicios y actividades de educación no formal que promueven la educación integral, la

socialización positiva y la inclusión educativa con actividades de participación en centros abiertos, campamentos y escuelas de vacaciones.

Las entidades participantes en el estudio han informado sobre los niños, niñas y adolescentes que han participado en estos dos subprogramas y recibido sus servicios durante el curso 2019-20. En concreto, el número de niños y niñas sobre los que han informado las entidades es de 5605. De ellos, 2084 han participado del programa de Educación No Formal y Tiempo Libre y 3521 en el programa de Refuerzo Educativo. La distribución de niños y niñas atendidos por las diferentes redes y entidades socioeducativas se puede ver en la Tabla II.

Tabla II. Distribución de los niños y niñas atendidos por las entidades socioeducativas y sobre los que han informado en esta investigación

REFUERZO EDUCATIVO	**3521**	**EDUCACIÓN NO FORMAL Y TIEMPO LIBRE**	**2084**
MADRID CAÑADA REAL	**198**	**MADRID CAÑADA REAL**	**142**
Asociación El Fanal	80	Asociación El Fanal	64
Cáritas Diocesana de Madrid	50	Cáritas Diocesana de Madrid	59
Fundación Secretariado Gitano	68	Fundación Secretariado Gitano	19
MADRID NORTE 1 (FUENCARRAL)	**187**	**MADRID NORTE1 (FUENCARRAL)**	**139**
Asociación Valdeperales	81	Asociación Valdeperales	72
Fundación Valsé	77	Fundación Valsé	54
Fundación Villena La Salle	3	Fundación Villena La Salle	8
Save The Children	26	Save The Children	5
MADRID NORTE2 (TETUÁN)	**261**	**MADRID NORTE2 (TETUAN)**	**158**
Asociación Pinardi	110	Asociación Pinardi	43
Asociación Valponasca	33	Asociación Valponasca	36
Fundación Amoverse	33	Fundación Amoverse	46
Fundación Valsé	60	Fundación Valsé	33
Cáritas Diocesana de Madrid	25		
MADRID SUR (USERA, VILLAVERDE)	**347**	**MADRID SUR (USERA, VILLAVERDE)**	**136**
Acais Comunidad y desarrollo	12	Acais Comunidad y desarrollo	16
Asociación Alucinos La Salle	58	Asociación Alucinos La Salle	28
Fundación Tomillo	130	Fundación Tomillo	92
Asociación Educación, Cultura y Solidaridad	46		
Cáritas Diocesana de Madrid	38		
Fundación Secretariado Gitano	63		
MADRID ESTE (SAN BLAS, CIUDAD LINEAL)	**289**	**MADRID ESTE (SAN BLAS, CIUDAD LINEAL)**	**222**
Asociación Achalay España	6	Asociación Achalay España	16
Asociación Barró	34	Asociación Barró	39
Asociación la Rueca	69	Asociación la Rueca	82

Cáritas Diocesana de Madrid	53	Cáritas Diocesana de Madrid	16
Fundación Amigó	10	Fundación Amigó	10
Fundación Tomillo	37	Fundación Tomillo	14
Fundación Valsé	50	Fundación Valsé	35
Save The Children	30	Save The Children	10
MADRID SURESTE (PUENTE DE VALLECAS)	**697**	**MADRID SURESTE (PUENTE DE VALLECAS)**	**532**
Asociación Barró	39	Asociación Barró	46
Asociación Citycentro	100	Asociación Citycentro	40
Asociación Cultural La Kalle	10	Asociación Cultural La Kalle	8
Asociación Krecer	41	Asociación Krecer	46
Asociación Primera Prevención	19	Asociación Primera Prevención	19
Asociación S an Pablo	44	Asociación San Pablo	43
Asociación Sandi	11	Asociación Sandi	10
Coordinadora Tiempo Libre de Vallecas	59	Coordinadora Tiempo Libre de Vallecas	51
Fundación Amoverse	22	Fundación Amoverse	40
Fundación Naif	14	Fundación Naif	21
Fundación Secretariado Gitano	55	Fundación Secretariado Gitano	43
Fundación Tomillo	47	Fundación Tomillo	35
Parroquia Sta María del Pozo	60	Parroquia Sta María del Pozo	37
Save The Children	125	Save The Children	93
Cáritas Diocesana de Madrid	51		
MADRID SUROESTE (CARABANCHEL, LATINA)	**813**	**MADRID SUROESTE (CARABANCHEL, LATINA)**	**370**
Asociación de Madres Solteras	119	Asociación de Madres Solteras	28
Asociación Nazaret	40	Asociación Nazaret	24
Asociación para el Desarrollo del Plan Comunitario de Carabanchel Alto	42	Asociación para el Desarrollo del Plan Comunitario de Carabanchel Alto	36
Asociación Pinardi	119	Asociación Pinardi	83
Fundación Tomillo	83	Fundación Tomillo	28
Redes Sociedad Cooperativa	136	Redes Sociedad Cooperativa	38
Save The Children	22	Save The Children	24
YMCA	148	YMCA	109
M. Madres Escolapias Paula Montal	41		
Cáritas Diocesana de Madrid	35		
Fundación Secretariado Gitano	28		
MADRID ÁREA METROPOLITANA (PARLA, LEGANÉS, FUENLABRADA, GETAFE)	**729**	**MADRID ÁREA METROPOLITANA (PARLA, LEGANÉS, FUENLABRADA, GETAFE)**	**385**
Asociación Pinardi Metrop.	96	Asociación Pinardi Metrop.	56
Asociación Yuna Metro	25	Asociación Yuna Metro	19
Save The Children Metrop.	305	Save The Children Metrop.	155
YMCA Metrop.	303	YMCA Metrop.	155

2.2 Instrumentos y Procedimiento de Recogida de Datos

Con el objetivo de recoger la información sobre las adaptaciones y ajustes que las entidades socioeducativas tuvieron que realizar para realizar su trabajo durante los largos meses de confinamiento absoluto que tuvo lugar en España para combatir la pandemia COVID-19, se construyó una tabla en Excel que debían cumplimentar las entidades con la información sobre las adaptaciones llevadas a cabo durante el período de confinamiento en los programas de Refuerzo Educativo y Educación no formal.

Las entidades informaban sobre si los programas y servicios se mantenían en funcionamiento o no y sobre la distribución de los menores en los diferentes grupos de cada entidad. Se incluyó una pregunta abierta donde debían relatar todo lo que la entidad había realizado durante el proceso para seguir manteniendo el servicio en estos dos programas educativos. Esta información la proporcionaron todas las entidades que colaboran en el programa Caixa Proinfancia en Madrid, cumplimentando la Tabla Excel con toda la información durante la primera quincena de julio del 2020. Hay que tener en cuenta que, como ya se ha indicado, el período de confinamiento se extendió desde el 15 de marzo al 21 de junio de 2020, durante 98 días, es decir 3 meses y 6 días y coincidió con el final del curso escolar.

Aunque desde septiembre ha habido diferentes estados de alarma en España, los centros educativos han estado funcionando durante todo el curso 2020-21 con normalidad. Se han realizado confinamientos perimetrales por zonas, municipios y Comunidades, y ha sido necesario cerrar algunos grupos de clase por cuarentena en algunos centros. Las medidas preventivas y de seguridad para el control de la enfermedad han llevado a combinar la semipresencialidad en los niveles superiores en algunos centros, pero no en Educación Infantil y Primaria. A pesar de estas necesarias adaptaciones, la actividad presencial en los centros educativos no se ha detenido desde el inicio del curso.

2.3 Resultados

Durante el período de confinamiento, las entidades socioeducativas tuvieron que hacer un gran esfuerzo de adaptación para poder seguir prestando sus servicios. Sin embargo, algunos de los grupos que funcionaban de forma presencial tuvieron que dejar de hacerlo. Las entidades reorganizaron los grupos para poder seguir atendiendo al mayor número de niños. Específicamente, 36 grupos dejaron de estar activos, todos pertenecientes a dos servicios que por sus peculiaridades eran difíciles de desarrollar utilizando procedimientos telemáticos: Apoyo Psicomotriz y Atención Logopédica como puede verse en la Tabla III.

Tabla III. Número de grupos de niños en los diferentes programas que mantienen su funcionamiento o no durante el período de confinamiento

	NO	SÍ	Total
Educación no formal y tiempo libre		**273**	**273**
Centro Abierto		273	273
Refuerzo educativo	**36**	**788**	**824**
Apoyo Psicomotriz	17	10	27
Atención Logopédica	19	47	66
Aula Abierta		143	143
Grupo de Estudio Asistido		503	503
Refuezo individual		85	85
Total general	**36**	**1061**	**1097**

Para poder extraer la información de la pregunta abierta, se crearon dos archivos de texto con la información proporcionada para cada red y por cada una de las entidades integrantes de la red. Se creó un archivo para cada programa de atención. Las entidades habían proporcionado información de cada uno de los grupos de atención en los dos programas, así que con la finalidad de no reiterar la información que se repetía en cada entidad de grupo a grupo, se resumió (intentando mantener los textos literales) en una información unificada sobre las adaptaciones realizadas por cada entidad dentro de cada red. Estos archivos de texto fueron analizados en una primera fase con el programa Nvivo 12.0 con la finalidad de extraer los términos más empleados en cada uno de los dos programas (Refuerzo educativo y Educación no formal) y diseñar la estructura básica para un análisis pormenorizado realizado en una segunda fase.

La información se clasificó atendiendo a los siguientes criterios: Medios de conexión con las familias, Plataformas telemáticas, Contenidos, Metodologías, Recursos y Frecuencia. La información extraída en esta segunda fase se recoge en las Tablas IV y V. En cada uno de los criterios la información se lista de mayor a menor frecuencia de aparición en el texto.

Tabla IV. Resultados obtenidos en el programa Refuerzo Educativo

Medios de conexión	- Llamadas telefónicas - Videollamadas grupales - Whatsapp - Video llamadas individuales - Correo electrónico	
Plataformas telemáticas	- Zoom - Teams - Skype - Jitsi - Google Classroom - Hangout	- Google Meet - Instagram - Kahoot - Redes sociales - Youtube

Contenidos	**Académicos**	- Dudas - Seguimiento realización de tareas - Deberes - Planificación y Organización - Técnicas de estudio - Repaso	- Lecturas - Lectoescritura - Atención y concentración - Herramientas de estudio - Compresión lectora
	Personal y Relacional	- Apoyo emocional - Relaciones sociales - Orientación	
	Salud	- Rutinas hábitos saludables - Recomendaciones COVID	
	TIC	- Uso de herramientas telemáticas - Apoyo familiar uso de las TICS - Brecha digital	
	Ocio	- Manualidades - Psicomotricidad - Ocio familiar	
Metodologías didácticas		- Retos - Juegos educativos - Proyectos - Cuentacuentos - Hechos históricos - Día del libro	- Escritura creativa - Creatividad - Concursos cultura general - Pasatiempos - Comics - Canciones/Bailes
Recursos		- Videos y audios tutoriales - Fichas - Actividades y material de refuerzo educativo - Material escolar - Recursos educativos on-line SM - Problemas - Libros	
Frecuencias		- 1 vez por semana - 2 veces por semana - Diaria - 3 veces por semana	

Tabla V. Resultados obtenidos en el programa Educación no formal: Centro abierto

Medios de conexión		- Videollamadas grupales - Whatsapp - Llamadas telefónicas - Correo electrónico - Videollamadas individuales	
Plataformas telemáticas		- Jitsi Meet - Google Classroom - Zoom - Teams - Skype - Hangout	- Duo Google Meet - Instagram - Redes sociales - Youtube - Telegram
Contenidos	**Académicos**	- Asesoramiento tareas - Rutinas y hábitos de estudio	

		- Dudas - Cálculo y problemas - Lectura comprensiva	
	Personal y Relacional	- Gestión emocional - Relaciones sociales y cohesión grupal - Competencias personales - Creatividad - Organización y adaptación	- Estimulación cognitiva - Autoestima - Responsabilidad - Motivación
	Salud	- Medidas prevención COVID - Rutinas de vida saludable	
	TIC	- Mal uso de las TIC - Brecha digital	
	Ocio	- Actividades lúdicas - Cineforum - Videos grupales - Diseño con ordenador - Vídeos - Manualidades	- Cuentacuentos - Actividades deportivas Gymkanas - Bodycombat - Yoga - Zumba yBailes
Metodologías lúdicas		- Retos grupales - Reflexiones grupales - Desafíos - Misiones - Concursos - Acertijos - Asambleas virtuales - Actividades orales en directo - Talleres creativos - Juegos educativos	- Juegos de mesa - Juegos cooperativos - Juegos vocabulario - Cluedo - Bingo - Mímica - Musicales - Cocina - Scape room
Recursos		- Recursos educativos SM - Fichas actividades según edades - Elaboración de materiales indicaciones centros - Videos tutoriales - Recursos de ocio externos - Elaboración de materiales de ocio - Recursos de ocio - Encuestas	
Frecuencias		- 1 vez por semana - 2 veces por semana - Diaria - 3 veces por semana	

En las Figuras 2 y 3, se pueden ver los resultados de las nubes de palabras proporcionadas por el programa Nvivo para cada uno de los archivos de cada programa. Para una mayor comprensión se reduce a las 50 palabras con mayor frecuencia de aparición en el archivo.

Figura 2. Gráfico de nubes de las 50 palabras con mayor frecuencia en el Programa Refuerzo Educativo

Figura 3. Gráfico de nubes de las 50 palabras con mayor frecuencia en el Programa Educación no Formal

En la Figura 2 se aprecia que los términos más utilizados en el discurso de las entidades en el programa de Refuerzo Educativo, remiten a la importancia de la personalización en la atención a los menores en los aspectos educativos y escolares, haciendo hincapié en el seguimiento y realización de tareas escolares y en el contacto con familias y centros educativos. Para el programa de Educación no Formal, como puede verse en la Figura 3, los términos más destacados se refieren a las actividades de ocio, sobre todo grupales y con las familias. En ambos programas los términos relativos a las llamadas y videollamadas aparecen con una alta frecuencia.

3. Conclusiones

Refuerzo Educativo

El objetivo de este programa es proporcionar apoyo académico a los menores para prevenir y compensar sus posibles dificultades en el aprendizaje o las desventajas académicas derivadas de la falta de recursos educativos en las familias, así como compensar el desnivel académico que puedan presentar respecto a sus compañeros en el centro educativo.

Como puede observarse en la tabla IV, la manera de contactar con los niños ha sido muy diversa. Las entidades buscaban establecer el contacto con los alumnos de la manera que fuera posible y en la mayoría de los casos el contacto y seguimiento ha sido telefónico, seguido de la realización de videollamadas tanto grupales como individuales.

La utilización de la aplicación "Whatsapp" ha sido muy frecuente. En España el uso de esta herramienta está muy difundido al ser gratuita. Es la manera habitual de enviar mensajes de texto, voz e incluso para la realización de videollamadas desde el teléfono móvil o el ordenador. En los hogares donde no existían ordenadores, pero sí teléfono móvil, ha sido muy utilizada.

Además de esta aplicación, también se han empleado numerosas plataformas telemáticas para establecer videollamadas, bien por tratarse de las que las entidades socioeducativas ya utilizaban habitualmente o por ser las usadas por los centros educativos.

La principal actividad en este subprograma, como cuando funciona de forma presencial, ha sido el apoyo académico. Es de destacar que el subprograma de Refuerzo Educativo ha experimentado una transformación positiva para afrontar la situación de confinamiento prolongado entre otras razones, porque se ha intensificado mucho la coordinación con los centros educativos. Las entidades socioeducativas han servido, en muchos casos como el "puente" de relación de éstos con las familias, pero, sobre todo realizando un seguimiento coordinado de la marcha académica de los niños y niñas. En este sentido, han tenido un papel determinando con las familias más desprotegidas, porque han impreso las tareas escolares, escaneado las respuestas de los niños y enviado en ambas direcciones el material. Cuando el envío era imposible electrónicamente o por teléfono, la red de voluntarios de las entidades, han hecho entregas físicas del material acudiendo directamente a las casas de los menores.

En relación con los contenidos tratados en las sesiones con los niños y niñas, se han orientado sobre todo al seguimiento en la realización de las tareas escolares, la resolución de dudas y también el apoyo en cuestiones de planificación y organización del trabajo. Hay que tener en cuenta que, en muchas familias los medios informáticos eran escasos y se compartían entre sus miembros, de tal manera que era necesario organizar los horarios de uso. Estas sesiones también han servido, aunque en menor medida, para enseñar técnicas de estudio, repasar contenidos académicos y ejercitar habilidades básicas de lectoescritura.

En la gran mayoría de ocasiones, estas sesiones han tenido un segundo objetivo de gran valor. Los educadores han proporcionado apoyo emocional a los niños y niñas, además de orientación personal

cuando era necesario. Han tratado de apoyar el que los menores pudieran mantener en la mayor medida posible sus relaciones sociales a pesar de la situación de confinamiento.

Derivado de la propia situación de pandemia, se han incorporado contenidos nuevos en estas sesiones. Algunos han estado relacionados con el cuidado y la salud como las rutinas de mantenimiento de hábitos saludables y las recomendaciones para la protección ante el Covid-19. Otros se han orientado a tratar de disminuir la brecha digital tanto de los padres y madres como de los propios menores, apoyando en la utilización de las herramientas telemáticas e informando sobre el riesgo que conlleva su uso inadecuado.

Las metodologías que los educadores han utilizado han tenido una orientación participativa y lúdica con la finalidad de mantener la motivación y el contacto con los menores. Con los más pequeños, se han incorporado algunos contenidos más orientados hacia el ocio que se realizaban con la participación de los padres y madres. En todas las edades, las metodologías didácticas han intentado utilizar recursos atractivos y motivadores tales como planteamiento de retos, realización de proyectos, juegos educativos, concursos culturales, pasatiempos, canciones… para mantener la vinculación y la conexión de los niños y niñas con el subprograma.

Además, las entidades socioeducativas han elaborado materiales específicos para facilitar el desarrollo académico. La gran mayoría han creado videos y audios tutoriales con explicaciones sobre temáticas o contenidos didácticos en función de la edad, otros han elaborado fichas de trabajo, materiales de refuerzo educativo con actividades concretas, guías de utilización de recursos on-line… Todos estos materiales se han hecho llegar a los menores por todos los medios posibles: teléfono, correo electrónico e incluso físicamente en los hogares. El esfuerzo y la implicación de las entidades para no dejar a ningún niño o niña desatendido ha sido encomiable.

En cuanto a la frecuencia con que se ha llevado a cabo este subprograma, la gran mayoría de las entidades lo han llevado a cabo al menos dos veces por semana, aunque en algunos casos de difícil contacto con los alumnos, se ha llevado a cabo al menos una vez a la semana. Es preciso resaltar que un número importante de entidades han dado este servicio de forma diaria.

De forma general, las entidades han hecho una redistribución de los grupos para poder atender a todos de forma más adecuada y personalizada. En algunas ocasiones, esta distribución se ha hecho en función del centro educativo en donde están escolarizados los alumnos y en otros casos, por edades y cursos. De hecho, en estas circunstancias adversas se ha llevado a cabo una atención aún más personalizada que cuando el servicio se lleva a cabo de forma presencial, sobre todo con los niños más mayores.

Además, el contacto con los menores para la realización del Refuerzo Educativo ha servido para detectar también otras necesidades básicas de las familias y para poder apoyarles en la gestión emocional de la situación vivida en cada hogar.

Educación no formal y Tiempo Libre: Centro Abierto.

El objetivo de este programa es fortalecer las competencias personales de los hijos enriqueciendo su entorno educativo extraescolar y ampliando los recursos personales y las posibilidades de aprendizaje y desarrollo personal a través de la ocupación educativa del tiempo libre.

Como puede observarse en la Tabla V, la manera de llevar a cabo este programa ha sido muy variada, tal como ha ocurrido en el de Refuerzo Educativo. Principalmente se han utilizado herramientas telemáticas que permitían el trabajo y la realización de las actividades en grupo, sobre todo videollamadas a través de muy diversas plataformas. Cuando esto no ha sido posible, se han utilizado las llamadas telefónicas y el correo electrónico para el envío de actividades.

Aunque el programa se orienta sobre todo a la realización de actividades de ocio, dada la situación de dificultad que ha supuesto el confinamiento, en muchas entidades también se ha utilizado para apoyar académicamente a los alumnos con la finalidad de prevenir el "desenganche" con sus estudios. Por eso, en algunos casos, se han incorporado contenidos académicos como por ejemplo el asesoramiento en las tareas escolares o la resolución de dudas. Esta flexibilización en la actividad del programa es un ejemplo de cómo, en esta situación, todas las entidades han dado prioridad a atender la situación de cada niño o niña, por encima de los contenidos formales asignados al programa, aprovechando cualquier oportunidad para darles apoyo a ellos y a sus familias.

Generalmente el programa se dirige a desarrollar las competencias sociales y personales de los niños, no obstante, durante el confinamiento, se han reforzado los contenidos que van dirigidos a la gestión emocional, la organización y adaptación a la situación, el fomento de la responsabilidad, así como la mejora de la autoestima y la motivación de los niños y niñas. También se han incluido y trabajado contenidos relativos al cuidado de la salud, sobre todo sobre las medidas de prevención del COVID y el desarrollo de rutinas de vida saludable. Además, al igual que en el subprograma de Refuerzo Educativo, se ha proporcionado formación a las familias y a los menores en el uso de las TIC y la reducción de la brecha digital.

Como puede verse en la Tabla II, las actividades lúdicas han sido muy diversas al igual que las metodologías y recursos utilizados. Hay que destacar la gran creatividad de las entidades para organizar

y diseñar actividades que pudieran desarrollarse de forma grupal e individualmente a través de los medios tecnológicos.

La organización de los grupos ha sufrido cambios. Se han desdoblado grupos con la finalidad de poder llevar a cabo las actividades de la forma más adecuada. También han cambiado los horarios para acomodarlos a las necesidades y posibilidades de las familias.

Respecto a la frecuencia de realización, en la gran mayoría de las entidades, el programa ha tenido una frecuencia semanal. En un subgrupo de entidades numeroso, aunque no mayoritario, este programa se ha llevado a cabo dos veces por semana.

Esta situación de confinamiento ha tenido también en algunos aspectos un resultado positivo. En muchas familias se han incorporado los hermanos e incluso los padres y madres a la realización de actividades, lo que ha sido aprovechado por las entidades para programar actividades de ocio familiar. Estas actuaciones han permitido reducir y aminorar los conflictos de convivencia y han servido para reforzar los lazos de unión entre los miembros de la familia.

Quizás este programa se ha visto más afectado por la imposibilidad de que los niños, niñas y adolescentes se relacionasen de forma presencial, cara a cara, lo que es sin duda una de sus mayores virtudes. No obstante, la tecnología ha propiciado que se pudieran mantener relaciones entre los participantes que, de otro modo, habrían sido imposibles. Aunque de distinta calidad y bajo un formato diferente, les han permitido "romper" el aislamiento y mantener la conexión con su entorno.

Conclusión global.

Este estudio trataba de identificar los aspectos positivos y negativos, las luces y sombras, del desarrollo de actividades educativas en entornos virtuales y telemáticos durante el confinamiento domiciliario por la pandemia Covid-19 en los niños y niñas de entornos sociales vulnerables, desde la perspectiva de los profesionales que desarrollan el programa CaixaProinfancia de lucha contra la pobreza infantil en sus subprogramas de Refuerzo Educativo y Educación No Formal y Tiempo Libre.

En síntesis, respecto a las implicaciones positivas que ha tenido asumir este importante reto, destaca el hecho de que los programas analizados se han mantenido durante el confinamiento y han tratado de dar un servicio de la mayor calidad posible a los niños, niñas, adolescentes y sus familias. Sin la utilización de las tecnologías de la comunicación y la información, esto no hubiera sido posible. Han sido un medio decisivo para mantener el contacto y poder realizar las distintas actividades, con las necesarias adaptaciones y ajustes al nuevo escenario.

De hecho, una de las consecuencias más interesantes de esta situación ha sido que, gracias a estos nuevos instrumentos telemáticos, las entidades socioeducativas han intensificado el contacto con los menores, les han atendido de forma más personalizada, han podido conocer a otros miembros de sus familias e incluso tener acceso virtualmente al entorno en el que viven, con mayor intensidad y calidad que cuando su intervención se desarrollaba de forma exclusiva en modo presencial, cara a cara.

Han permitido mantener las relaciones sociales de los niños y niñas aminorando los efectos del aislamiento y han servido para cuidarles y apoyarles emocionalmente en unos momentos muy difíciles y críticos. Y no solamente a los menores, sino también, en muchas ocasiones a sus padres y madres, con los que se ha intensificado la relación y el conocimiento mutuo y se han podido identificar necesidades básicas de las familias y atenderlas mediante el resto de los programas y recursos de las entidades socioeducativas. El contacto telemático ha mejorado la comunicación entre las familias y las entidades, tanto en los programas analizados en este estudio, como en el conjunto de sus actividades.

Una de las dificultades más importantes de esta situación ha sido la incidencia de la brecha digital. La pandemia y el confinamiento han agravado un problema ya existente al poner de manifiesto que muchos hogares con menores no disponen de los recursos necesarios para incorporar las tecnologías a sus vidas de forma eficaz, bien por la insuficiencia de medios materiales, dispositivos y conectividad, por la falta de competencias digitales o por el desconocimiento sobre cómo aprovechar la tecnología en la vida diaria.

Algunos niños y niñas atendidos por el programa no disponían de medios y/o conexión a internet por lo que no han podido recibir la atención con la misma calidad que el resto, al tener que adaptar y ajustar las actividades a sus recursos. El caso más grave lo representan los niños y niñas “perdidos”, los “olvidados”, aquellos que desde el principio se desconectaron de su centro educativo, pero también de las entidades que intentaron compensar sus dificultades. Son todos aquellos con los que no se pudo contactar ni siquiera telefónicamente, los que se perdieron por el camino y de los que se olvidó el sistema. Para ellos, estos meses son irrecuperables y no harán sino intensificar la brecha académica y relacional con el resto de sus compañeros. Son los que ni siquiera tienen una entidad socioeducativa de referencia, donde reunirse y compartir con otros, donde les siguen y les ayudan académicamente. Los niños y niñas que aparecen en las estadísticas como “fracasados”, los que abandonan el sistema. Cabe preguntarse si son ellos los que fracasan o es nuestra sociedad y nuestro sistema educativo quien realmente fracasa con ellos.

Finalmente, cabe señalar el enorme reto que han tenido que asumir las entidades socioeducativas. Como ya se ha expuesto, han actuado como "puentes" en distintos aspectos. En primer lugar, para vincular a los niños y niñas con sus centros educativos y a éstos con su alumnado de una forma que habría sido imposible conseguir sin su implicación y compromiso, especialmente con los menores en peor situación social. Además, han actuado como "puente" al interior de las propias familias cuando han diseñado actividades comunes en las que han participado todos los miembros del hogar, incluyendo padres y madres y finalmente, como "puentes" vinculando a las familias con el resto de los programas de las entidades y con la red de recursos sociales de su comunidad, tanto públicos como privados, para la atención de las numerosas necesidades que esta situación de crisis ha desatado.

El escenario descrito, desencadenado por la pandemia del Covid-19, nos recuerda la necesidad, cada vez más imperiosa, de trabajar para alcanzar el Objetivo 4 de la Agenda 2030: "ninguna meta educativa debería considerarse lograda a menos que se haya logrado para todos" y "garantizar una educación inclusiva y equitativa de calidad". En la consecución de este objetivo se juega el futuro de nuestros niños y niñas y por tanto el futuro de toda la humanidad.

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USING IOT TO IMPROVE LEARNING

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Abstract

Having identified the dynamics of the classroom as an important factor for improving students' learning, we intend to present Internet of Things (IoT), through the learning platform SOLL: Smart Objects Linked to Learning, as a resource capable of generating favorable conditions to an environment of learning.

This because the IoT allows, from sensors, the collection of data in real time in different contexts such as greenhouse, swimming pool or atmosphere, among others. These data generated by the context, for example humidity, temperature or distance, among others, will be analyzed and used by students to carry out theoretical-practical and practical activities, in order to consolidate the Essential Learnings of each discipline involved in the project.This, so that the student finds meaning in what he is learning, without failing to fulfill the essential learnings and the one defined in the student's profile after leaving compulsory education. Therefore, in order to show that the use of IoT can improve learning, an investigation of qualitative methodology was developed, using the SOLL learning platform for interdisciplinary work with 8th graders and their teachers in the disciplines of physics and chemistry, natural sciences, mathematics, geography and information and communication technology, in which the chosen context was the greenhouse, where data on sun moisture, soil and air temperature, soil pH and plant growth were collected to carry out activities. Thus, during the performance of the interdisciplinary activities, data were collected: from the students, a description was chosen, and from the professors, a focused discussion was chosen.

The data obtained show that, in general, activities that use IoT, whether theoretical-practical or practical, create an environment conducive to learning, awaken the senses, increase the motivation for meaningful learning and favor curriculum development from the context as a way to overcome curriculum decentralization, leading students to learn more.s

Keywords: Internet of Things, Education, Learning

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1. Introduction

"Technologies are in society and bring new challenges, needs and possibilities" (Bruno, Schuchter and Junior, 2019, pp.62), offering "additional tools for the search of information and knowledge" (Morgado, 2015, pp. 167). The European Commission (Comissão Europeia, 2012) note that "digital technologies have an impact on education, training and learning through the development of more flexible learning environments adapted to the needs of a highly mobile society".

According to OECD, "students learn better science if they see the point of what they learn. Relating the scientific concepts learnt in class to the everyday life of children or, more generally, showing the relevance of what is taught to everyday life problems makes science more attractive and its teaching and learning more effective" (Vincent-Lancrin, 2019, pp. 93). It is added that "conducting experiments and investigations gives students an entry point into the work life of scientists, and a better understanding of its empirical dimension" (Vincent-Lancrin, 2019, pp.58). In this sense the "computers and digital devices are well suited to support the acquisition of procedural knowledge through repetition and drilling" (Vincent-Lancrin, 2019, pp. 42).

Hopefully, teachers" will find the right dosage with other, more active learning practices" (Vincent-Lancrin, 2019, pp. 38), because in order to translate it into effective improvement of learning, these must ensure that: the use of technology is appropriate and values the learning in question and that it be framed in the current pedagogical practices of the teacher and the preconceptions of the students; the activity should be structured so that the students have to take some responsibility and have the opportunity to develop active participation; it is essential to promote in students reflection on the underlying concepts and relationships, creating moments of discussion, analysis and reflection; the focus should be on the research activity by developing skills in data collection and analysis; it should clarify the relationship between the use of technologies and the process of teaching and learning; the sharing of findings and ideas within the class group should be encouraged (Osborne and Dillon,

In this sense, the IoT, through the sensors connected to the internet, meets the above, since it makes it possible to obtain information about the environment or activity and these data will be stored for later feedback (O'Brien, 2016). Thus, it becomes possible to work on contents

that meet students and their interests and community contexts in an interdisciplinary way. In this way, it stimulates a dynamic, motivated and participatory pedagogical work, important for the development of skills for the student to articulate and contextualize the acquired knowledge (Morin, 2002) and can be designed to create opportunities for best learning moments (Kukulska-Hulme et al., 2021).

Therefore, their use of IoT in the classroom brings considerable benefits to education (Johnson, et al., 2015), mainly because it motivates students for meaningful learning, as they are actively involved in tasks relevant to the learning process, using their potential skills, which implies that they must make decisions to choose a course of action among others possible and within reach (Bzunec, 2001). In this context, the school will be able to take advantage of the possibilities offered by IoT, since it makes the classroom an "open space" where physical limitations are not relevant for the interpretation of the environment. In this way, it allows an interdisciplinary articulation of concepts, cognitive operations and work processes, providing an improvement in learning and a better understanding of the world and life.

2. Theorical framework

2.1. Internet of things in education

The Internet of Things is a network composed of various objects and devices connected to the Internet, "various technologies that work together" (Sethi and Sarangi, 2017, pp. 1). This introduced "a new paradigm that is rapidly gaining ground in the modern wireless telecommunications landscape" (Atzori, Iera and Morabito, 2010) in which "all available user devices are connected and can be identified, interact and communicate with each other and their surroundings" (Kiryakova et al., 2017, pp. 82), thus creating opportunities to explore places that would be difficult, dangerous or impossible to visit (Kukulska-Hulme et al., 2021, pp. 1). Offering, according to Harpur and De Villiers (2015), conditions for the best learning moments, as it highlights participation, personal contexts and sensory experiences.

According to Aldowah et. al (2017), "new forms of information exchange lay the foundation for more interactive and personalized learning" and real-time data "are useful for analyzing actions, interactions, preference trends and changes in student skill levels" (Aldowah et. al., 2017). This "personalization can be done automatically based on the constructed learner's

profile, his level of knowledge and achievements, the pace of learning and specific needs" (Kiryakova et al., 2017, pp. 82). The teacher remains "essential for guiding students to and through learning objects" and "must also take students away from the variety of disconnected experiences to develop meaning and assimilate their new knowledge, skills and emotions" (Slimp and Bartels, 2019, pp. 35). So, the IoT is applicable to education because, students explore real-world situations in order to "build their own knowledge" (Costa, 2014, pp.116) through the collection of real-time data, issued by these connected environments (Johnson et. al., 2015), and allowing for the exploration of subjects that meet the interests and contexts of students and their community. Acconrding to Kiryakova et al., (2017, p. 80) the IoT

> "may affect teaching and learning processes, including the approaches of creation of knowledge and its dissemination. The learning process may be directed entirely to the participants' needs by physically connected devices. The IoT allows achievement of what is often a matter of controversy – the availability of more technical devices and accompanying technologies helps transform learning in more human-oriented process."

In this way, technology-rich environments changing school grammar, because the "connected devices transforming learning from passive to active" (Kiryakova et al., 2017, p. 82) enrichment experience-based teaching and teaching management aid (Callaghan, 2012) and

> "learning environments with enhanced technology can be designed to create opportunities for the best learning moments - for example, through the use of mobile devices, game-based learning and immersive experiences, and through the use of learning analytics data. New ways of capturing the best learning moments can support reflection on learning and improve the design of learning technology." (Kukulska-Hulme et al., 2021, pp. 1)

As refer Andrade (2012), "a potential for motivation for students by activating multiple senses and (…) allowing them to develop skills beyond technical and scientific knowledge and their academic exploration does not necessarily have to do with "Disneylandization" of knowing! It will be a current response, with new resources for a consolidated pedagogical perspective".

2.2. Learning and curricular articulation

Currently, according to the legislation issued by the Ministry of Education, the intention is to use innovative pedagogical practices with an organization of knowledge that includes significant issues, identified collaboratively by educators and students, beyond the boundaries of the disciplines (Beane, 2002). Thus, according to Cabral and Alves (2018, pp. 21), the

curriculum “starts to be seen as a whole composed of different parts, but that it is urgent to interconnect and articulate, avoiding redundancies, obliterating the connections between different fields of knowledge, scaffolding future learning and resuming past learning, so that learning can make sense to students, becoming more meaningful and solid”. However, in order to comply with the above, it is important to make the curriculum more flexible, “according to the characteristics of the contexts and students and with clear and objective pedagogical criteria” (Cabral and Alves, 2018, pp. 21). As highlighted by Morgado, (2018, pp. 73) “the context has a notable influence, as it depends, to a large extent, on the way the teaching-learning processes are structured and operationalized and the greater or lesser involvement in the educational tasks of the school and social actors”.

Therefore, teachers cannot renounce the “implementation of models of pedagogical innovation that lead to the improvement of students' learning” (Cabral and Alves, 2018, pp. 21). Because these are the best learning moments, recognized as "ideal learning moments", one of the moments of greatest attention and involvement of students when using some technology-enhanced learning apps and these mental states can contribute to more effective learning, one of the best learning moments to be memorable, since strong emotions contribute to the formation of long-term memories (Kukulska-Hulme et al., 2021).

In this sense, the teaching and learning processes must be modified, favoring modes of pedagogical work of initiative and appropriate type (Lesne, 1984) as problem-based learning and the project methodology, which work at the level of the students' dispositions and motivations and try to develop in them a cognitive appropriation of the real, in order to meet the needs of the students (Costa, 2014), who, in the opinion of Hargreaves, Earl and Ryan (1996) need

> “more sophisticated skills, such as complex and critical thinking, problem solving, weighing alternatives, making informed judgments, developing flexible identities, working independently and in groups and discerning appropriate courses of action in ambiguous situations.”

Thus, according to the profile of students leaving compulsory education (Gomes et al., 2017) today, more than ever, the school must prepare students for the unexpected, the new, the complexity and, above all, develop in each one skills and knowledge that will allow them to learn throughout their lives. Through a “coherent articulation of these learnings in relation to the intended purposes” (Roldão, 2018, pp. 11) that must occur at the level of concepts, in a

complementary and convergent way as they are approached from the different fields of knowledge; cognitive operations, what is asked of students in each class and work processes, intentional strategies of understanding and appropriation that will allow the use of the content. With the objective of obtaining a "global, intentional and organized conception of an action or set of actions, with a view to achieving the intended learning purposes" (Roldão, 2010, pp. 68). In this way, it is expected that the teacher breaks with the traditional pedagogy and feels comfortable putting alternative pedagogical models into practice, the teacher will have to work in partnership and cooperation with the educational community. At this point, school leaders become truly important, as Cabral and Alves (2018, pp. 20) state, for

> "Ways of organizing teachers, such as educational teams, tutoring, assistances and others that each school can (re) invent according to the needs evidenced by its students, are certainly much more favorable to a collaborative professional culture and the assumption of a collective commitment by all teachers for the global learning of all students".

Especially because the individualism and isolation with which teachers work are inhibitors of ideas and practices to improve students' learning. Thus, being the professional attitude combined with technological devices that induce a favorable and motivating learning environment, induces the creation of an environment that fosters more creative and innovative approaches, intense organizational relationships are created that provide more effective curricular flexibility and pedagogical differentiation, to provide student with conditions for meaningful learning. Therefore, accompanying students from different contexts in order to respond to the demanding learning and skills necessary for a knowledge society in which we find ourselves.

2.3. Platform SOLL

In order to take advantage of technology to create special learning conditions for students "so that, they are able to critically select and seek the knowledge they wish to acquire, and integrate them into the set of knowledge that they already have and are capable of conducting a practice based on them " (Costa, 2014, pp.69), the SOLL: Smart Objects Linked to Learning (Magalhães, Andrade and Aves, 2019) project was created, which is based on the construction of a greenhouse, monitored by sensors that, through the Internet of Things, transmit real data in real time and is constantly updated by the SOLL platform.

From this platform, students, aged between 12 and 15 years old, worked on Essential Learnings, in the disciplines of physics and chemistry, mathematics, geography, ICT and natural sciences, through a set of activities. To solve these activities, students had to access the platform, using a password. They started by researching the materials to build the greenhouse, the best location and orientation. After its assembly, they built the IoT kit to collect data from the greenhouse, like soil pH, soil and air temperature, soil moisture and plant growth. These data, through a Wi-Fi module, were sent to the platform, which stored them and allowed their observation. From this point on, students analyzed the data and needed them to answer a set of questionnaires. These were also useful in controlling greenhouse conditions for plant development.

During the performance of individual and group activities carried out by the students, the teachers evaluated the students' work in real time. In this way, it was possible to provide feedback at the time of difficulty and manage the autonomy given to each student, making learning more personalized. Figure 1 shows the interaction between the different project targets.

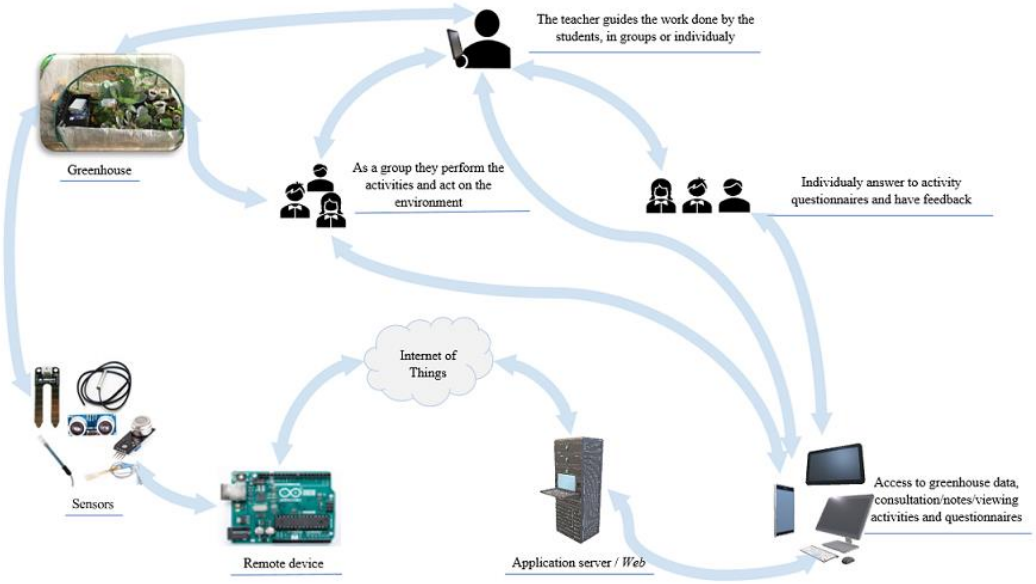

Figure 1: Interaction between the different targets of the SOLL project, prepared by the authors

The online learning platform, www.soll.pt, is supported by a set of technologies that collect and store real data. Figure 2 shows a map of the SOLL learning platform. To access SOLL, both teachers and students need to provide authentication consisting of username and a password, given by the administrator of the learning platform.

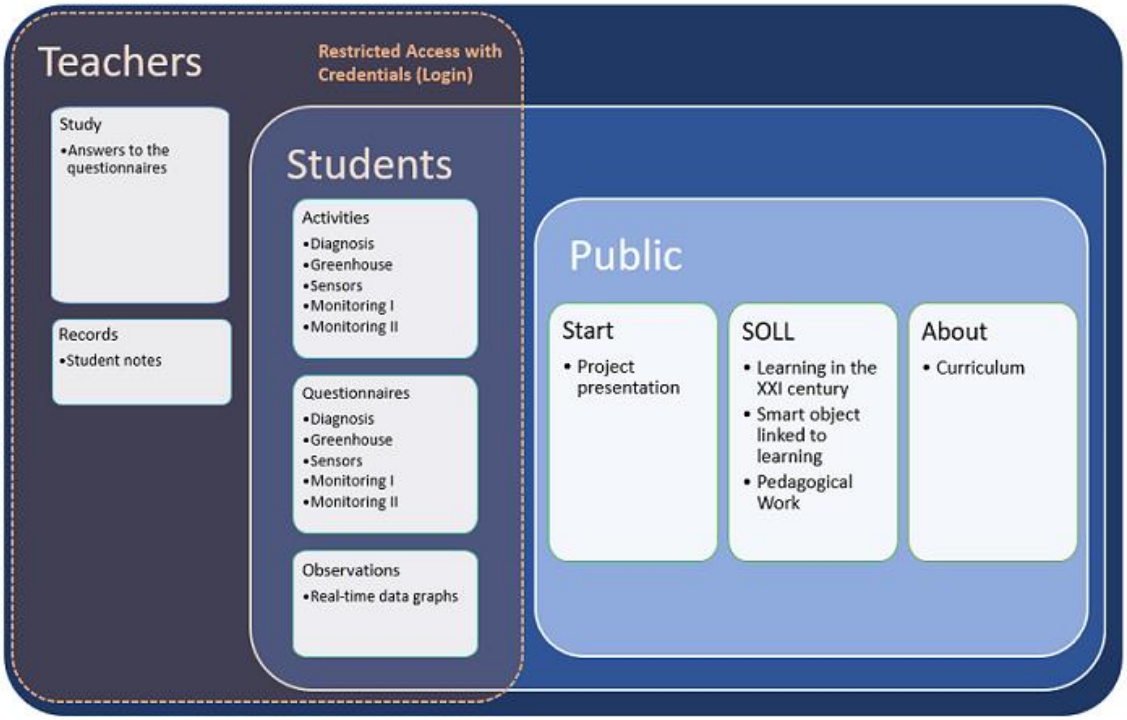

Figure 2: Map of the SOLL learning platform, elaborated by the authors

As can be seen in Figure 3, students have access to activities, questionnaires and observations of actual data from the greenhouse. On this learning platform, students are offered activities, which comply with the Essential Learning of the respective disciplines and which encourage action on the environment.

Each activity has an associated Notepad, useful for noting links for information research, for recording informational documents and present work done.

After the activity was carried out, students were asked to fill in a questionnaire about it and, were then given access to their results for task and an explanation for any wrong answers.

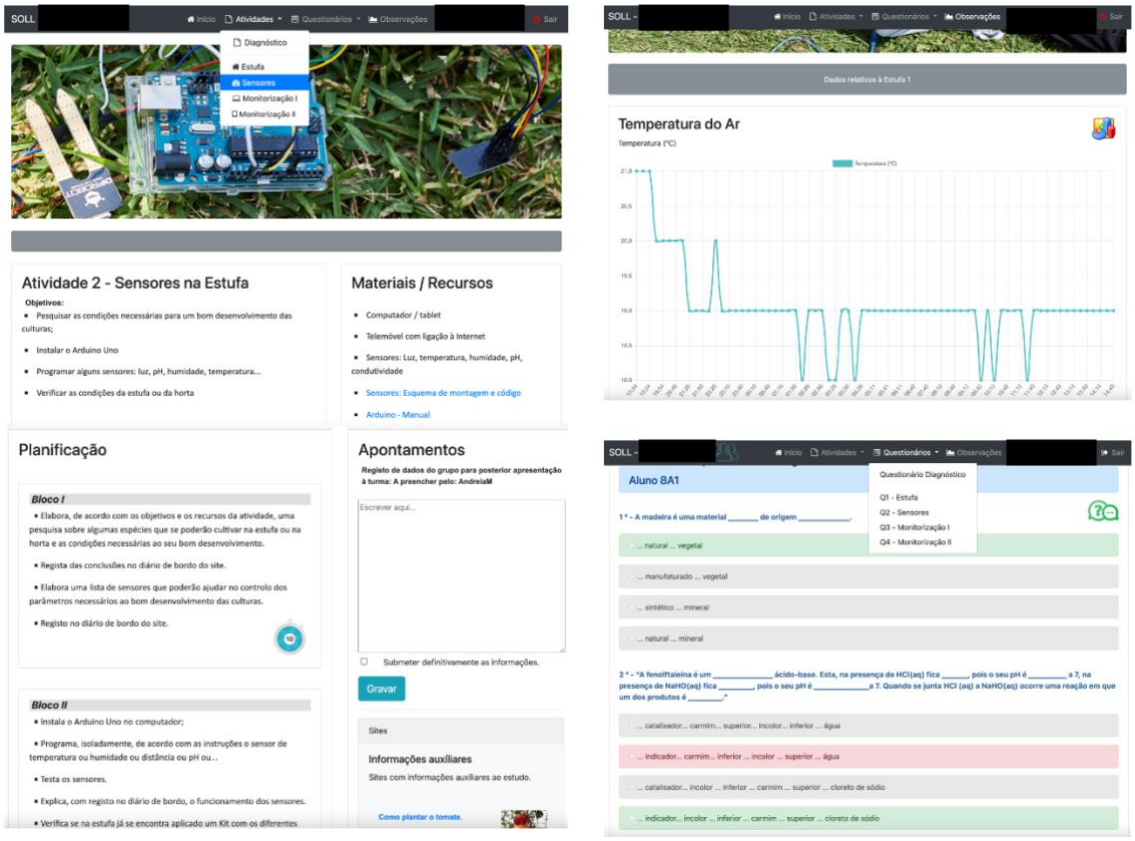

Figure 3 - Soll platform seen by students, with activities, questionnaires and observation of greenhouse data

In this way, “the assessment is continuous and systematic in the service of learning, and provides the teacher, the student, (…) with information on the development of the work, the quality of the learning done and the ways to improve it” (Decreto Lei nº 55, 2018, pp. 3790-(4)) and “the information obtained as a result of the evaluation also allows the revision of the teaching and learning process” (Decreto Lei nº 55, 2018, pp. 3790-(4)).

With this interdisciplinary resource, students achieve what is required in the Student Profile to Exit Compulsory Schooling, in which "Areas of Competence” understood as complex combinations of knowledge, skills and attitudes that allow effective human action in diverse contexts are developed. They are of a diverse nature: cognitive and metacognitive, social and emotional, physical and practical and is important to emphasize that competences involve knowledge (factual, conceptual, procedural and metacognitive), cognitive and psychomotor skills, attitudes associated with social and organizational skills, and ethical values (Martins et. al., 2017, pp.9).

Teachers have access to a student activity management system on the platform, as shown in Figure 4, which allows them to monitor, in real time, the activities performed by the students through the observation of the notebook and their responses to the questionnaires.

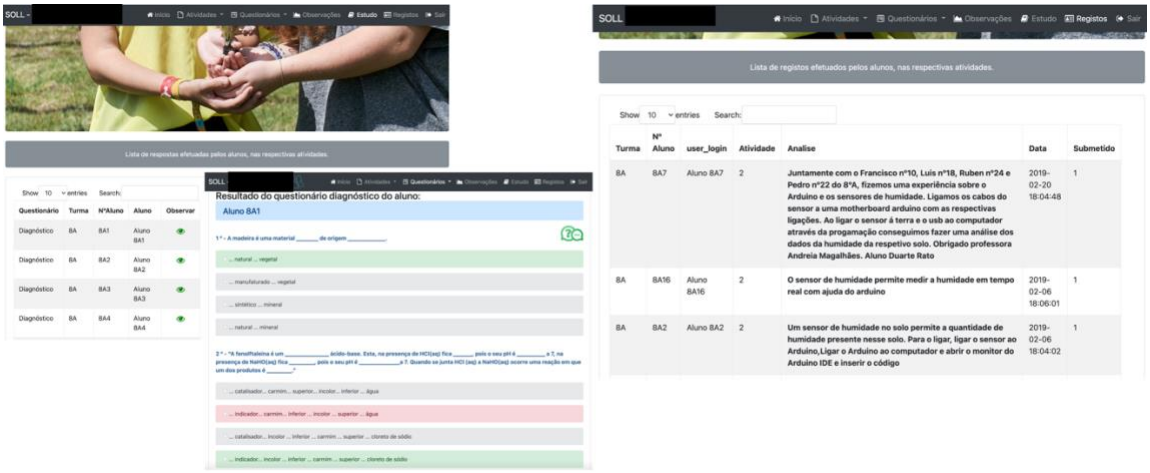

Figure 4 - Soll platform seen by teachers, with everything that the student has plus a part of study and records.

In this way, the teacher has a sense of the students' performance and/or difficulties and can provide more personalized teaching, since it allows for the real-time verification of individual or group work.

3. Methodology

As the study focuses on emancipatory knowledge, which aims to expose the ideologies that condition access to knowledge and actively operate in the transformation of this reality (Coutinho, 2005), we position ourselves in a socio-critical paradigm, a theoretical perspective which, according to Coutinho (2005, pp. 362), is "characterized by greater dynamism in the way of facing reality, greater social interactivity, greater proximity to the real due to the predominance of praxis, participation and critical reflection, and transformative intentionality". Therefore, aiming for the development of practical and innovative solutions to the serious problems of education (Matta, Silva and Boaventura, 2014), the development of effective learning environments and the use of natural laboratories to investigate teaching and learning (Sandoval, 2004) and because the research does not take place in the context of the researcher's action, it was supported by Design-Based Research. According to Wang and Hannafin (2005), Design-Based Research is a systematic, flexible methodology designed to improve educational practices through interactive analysis, design, development, and real-world implementation. For Barab and Squire (2004) this is not an approach, but several approaches, developed in real

contexts, with the intention of producing new theories, artifacts and pedagogical practices with potential to impact learning. It is assumed to be qualitative nature, since this method allows "to emphasize the specificities of a phenomenon in terms of its origins and the street reason for being" (Haguette, 2005, p.63).

Data collection techniques were chosen from the options proposed by Teddlie and Tashakorri (2009): description and focused discussion. Within this sampling, a random cluster sampling was chosen, which allowed for the equivalence of clusters at the same level. Thus, based on the words of Charles (1998), who states that the sample is directly related to the type of problem to be investigated, the sample had the following characteristics: 154 students, 79 (51%) boys and 75 (49%) girls in 6 classes of 8th grade; 14 teachers (prof.) distributed by the subjects of mathematics (Mat), natural sciences (NS), physics and chemistry (PC), geography (Geo) and information and communication technologies (ICT).

For the students, the description method was chosen because, according to Charles (1998, p.153), this method allows "to transform observations into verbal annotations, but it goes further than notation due to the concern to provide a portrait as faithful as possible of the situation, full of details". This is a method that intends to "investigate natural contexts, processes, events or behaviors in depth" (Coutinho, 2016, p. 106).

Already for the teachers, the focused discussion method was chosen, as the format of “guided discussion”, is intended to verify the “interactions” that are created (Mason and Bramble, 1997), to observe the degree and nature of the agreements and disagreements between participants (Morgan, 1997). In order to meet the objective and collect data on the impact of IoT on student learning processes, these instruments, questionnaires and focus group guides, were constructed based on the work of the following researchers: Welchen and Oliveira (2013); Parellada and Rufini (2013); Souza and Neves (2010); Neves (2007); Neves and Boruchovitch (2007); Knuppe (2006); Siqueira and Wechsle (2006); Alcará and Leite et al (2007); Bzuneck (2001).

For data analysis, MaxQDA software was used for qualitative data analysis of the teachers' focus group interviews and the open response of the questionnaire to students.

4. Results

Although the school is a learning space inserted in a technologically evolved society with population diversity, it was found that there is still a lot of resistance to the use of technology. This is because among teachers it is still thought that it induces distractions and does not help to learn more,

> "If there were no other parallel distractions… I think it would be a huge asset" (Teacher)

despite what the students say,

> "Help me, I don't know how to start! I was not in your last class I was expelled! I don't know my password. Help me get in that I want to do the activity." (8th year student, implementing the SOLL project)

Thus, the use of the SOLL project - Smart Objects Linked to Learning, using IoT, which proves to be an enabler of a motivating learning environment, aroused the senses for meaningful learning and favored curriculum development from the school context as a way to overcome curricular decentralization, leading students to learn more.

Table 1 presents some of the opinions of teachers and students in the development of the curriculum using the SOLL platform, using IoT, in the categories of curricular articulation.

Table 1- Opinion of teachers and students on the categories of curricular articulation

Category	Teachers	Students
Concepts	"We can easily combine 4 areas here ... 5 areas ..."	I stay focused on an activity only when it is related to personal interests
	"There is no better construction of knowledge that is not that way ... it is that they realize that, after all, all areas of knowledge are linked together ... and that complement each other ... in terms of knowledge ..."	Make content more abstract in concrete
	"Science has this advantage a lot ..."	
	"It was even good for flexibility..."	
	"Transversality and interdisciplinarity"	
Cognitive operations	"When we do something like that they always like it because it's the data they collected ..."	"I like this type of activities more because it is more practical!"
	"I had feedback at the moment..."	Allow me to assess whether I know the contents
	"It forces them to interpret, to be critical in the face of the data they are receiving ..., therefore, it ends up building, consolidating and structuring knowledge."	Real situations are addressed
	"In fact, when they didn't know, they went to research."	Promotes research

Work processes	“They can contextualize things and make more sense for them ... they don't ask what this is for ...”	I keep my attention focused on understanding the content of an activity
	“As an application of knowledge ...”	
	"They can always go a little further ..."	
	"The contents that they manage to perceive that are effectively useful, it is not. ... they see that it is useful for something ... they realize that it is used ... it may not be used by them, it is useful ..."	

According to the opinions collected, the Internet of Things presents itself as a tool that easily promotes interdisciplinarity, facilitates the construction of knowledge, because it forces the student to interpret, to be critical in the face of the data he receives and that he ends up building, consolidating and structuring knowledge and appreciate why their data is working. Therefore, this resource, which allows the student to act on knowledge, brings with it multiple learnings and, when doing so with a positive and committed attitude, learns more. Teachers also consider that there is greater control in the verification, identification and correction of students' difficulties in real time, enabling them to monitor their learning. Likewise, at the end of each class, it allows knowing what the student has researched, what he/she has learned and what their interests are, allowing the teacher to reformulate the way in which he guides the learning of the content.

5. Conclusion

From the above, the results obtained are in line with what Ausubel (1969) states when stating that learning only makes sense if integrated with pre-existing mental schemes and with Roldão (2018) when says that learning means mastering increasing levels of complexity and meaningful learning that occur through the permanent establishment of the experience - knowledge - new experience - new knowledge continuum. And so, as Morgado (2018) points out, in addition to essential knowledge, other skills and sensitivities that students need to develop were included.

In this way, we can verify that, as refer Kukulska-Hulme et al. (2021) this technology promotes learning moments that result in learning with high levels of satisfaction and particularly memorable, as they enable multiple learning activities that involve practical activities and participation that are well aligned with student-centered approaches that take into account

individual differences in learning. Thus, it is necessary for the teacher to be attentive to the students' interests, in order to bring teacher and student closer to a more solid and constructive learning (Leite et all, 2005). However, it can be further enhanced if the School asserts itself as a project of society, that is, as a true learning community to enhance the desired changes and generate, from within, an innovative and promotes new ways to capture or record the best learning moments and use them to reflect on learning or to improve the design of learning technology (Kukulska-Hulme et al., 2021).

In short, this resource creates an environment in the classroom that fulfilling the essential learning defined in the student's profile after leaving compulsory education (Gomes et al., 2017), and finds echo in the current guidelines recommended by the OECD (Vincent - Lancrin, 2019), as it responds to the current problems of teaching and learning, brings numerous benefits to the children's development, mainly in the construction of its identity, leading the children towards their autonomy and acquisition of new knowledge, enabling their effective development knowing how to use personal resources in the face of the adversities they will face in their lives (Welchen and Oliveira, 2013).

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POSTURE ACCOMPAGNANTE DES ENSEIGNANTS, VECTEUR DE DEVELOPPEMENT COGNITIF ET AFFECTIF DES ELEVES A DISTANCE. FOCUS SUR LE TERRAIN EDUCATIF LIBANAIS

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Abstract

The aim of this study was to examine how Lebanese teachers, during distance learning, supported their students, in the times of crisis that consist of health and socio-economic challenges. It was hypothesized that the teacher's accompanying posture encompassing the "way of being" and the "way of interacting" promotes the cognitive-emotional development of students and is essential for optimizing their learning. In line with the post-positivist paradigm, the study adopted a quantitative approach that was then supported by a qualitative one. The main data collection tool was a questionnaire that was answered by a sample of 200 Lebanese school teachers. The qualitative aspect consisted of two focus groups that were conducted with students. The results revealed that teachers were flexible but not very empathetic with pupils when it comes to their "way of being" and the "way of interacting". Teachers exercise various teaching practices that are not sufficient when it comes to fostering expressing students' feelings. As such, distance education does not seem to enable Lebanese teachers to adequately develop students' personal, emotional, and social skills due to the complexity of the Lebanese teaching environment.

Keywords: Student support, flexibility, empathy, cognition, emotions.

Résumé

La présente étude questionne les enseignants libanais sur leur posture accompagnante, adoptée lors de l'enseignement à distance, dans un contexte libanais, frappé par une double crise, sanitaire et socio-économique. L'étude estime que la posture accompagnante, composée de la "manière d'être" et de la "manière d'inter-agir", est inhérente à tous les enseignants en contact avec l'élève, contribuant au développement de ses compétences émotionnelles, incontournables pour optimiser son apprentissage. Dans cette optique, une méthode largement quantitative a été adoptée, suivie par une approche qualitative soutenue par l'application d'un questionnaire auprès de 200 enseignants du secteur scolaire libanais,

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complété par deux focus groups à l'adresse des élèves. Les résultats obtenus lèvent le voile sur une posture témoignant d'une "manière d'être" flexible mais peu empathique et d'une "manière d'inter-agir" qui met en œuvre des pratiques pédagogiques variées sans pour autant suffire pour favoriser l'expression des ressentis des élèves. L'enseignement à distance ne semble pas permettre aux enseignants de développer suffisamment les compétences émotionnelles personnelles et sociales des élèves, dans un environnement libanais complexe et inédit.

Mots-clés: Posture accompagnante, flexibilité, empathie, cognition, émotions.

Introduction

Après avoir été longtemps mises à l'écart en matière d'apprentissage, les émotions sont de plus en plus étudiées dans l'éducation actuellement (Cuisinier, Tornare et Pons, 2015). Elles interfèrent dans le processus de l'enseignement-apprentissage puisqu'elles sont inextricablement liées à la cognition (Becker, Goetz, Morger et Ranellucci, 2014 ; Cyrulnik et Morin, 2011), lien désormais confirmé par les découvertes neuroscientifiques (Damasio, 1995). L'enseignant est ainsi convoqué à tenir compte des ressentis des élèves afin d'optimiser leur rendement cognitif, en mobilisant à bon escient leurs affects (Lafortune, Doudin, Pons et Hancock, 2004) *a fortiori* à distance, où leur isolement risque d'être accentué (Caraguel, 2013). Il s'adresse à l'ensemble de la personnalité de chacun et lui porte un soin particulier, comme personne humaine ayant des pensées et des ressentis. Cette étude questionne donc les enseignants libanais sur leur posture accompagnante, adoptée lors de l'enseignement à distance (E@D) à partir de diverses questions : S'intéressent-ils au développement affectif de leurs élèves, en plus de leur développement cognitif ? Ont-ils le souci de promouvoir leur bien-être personnel et social ou sont-ils uniquement soucieux de valider des acquis d'apprentissage et de sauver l'année ? Quelle posture adoptent-ils à distance ? La présente étude vise à investiguer le terrain scolaire libanais de façon à répondre à la question de recherche suivante : Dans quelle mesure les enseignants adoptent-ils une posture accompagnante, à distance, contribuant à développer les compétences émotionnelles personnelles et sociales des élèves ? Dans cet article, nous nous intéressons à la posture accompagnante de l'enseignant et au développement des compétences émotionnelles des élèves que l'enseignant est appelé à développer dans l'E@D. Une approche quantitative, appuyée par une approche qualitative, révèle une posture enseignante flexible mais peu empathique, mettant en œuvre des pratiques pédagogiques variées sans pour autant favoriser suffisamment la socialisation des élèves, lors de l'E@D.

Contexte de l'étude

Situé au Moyen-Orient, l'emplacement géographique du Liban et son système politique pluriconfessionnel (18 confessions cohabitent et se partagent le pays) constituent, à la fois, sa force et sa fragilité. Qualifié par Jean-Paul II de "pays message", le Liban s'est souvent retrouvé le plateau de

nombreux soubresauts, s'embrasant par moments et s'apaisant par d'autres. Actuellement gouverné par une démocratie "en crise", le pays souffre d'un cataclysme financier, sans précédent, précipitant sa descente aux enfers auquel vient s'ajouter la pandémie de la Covid19 "Coronavirus Disease 2019", incitant le monde entier au confinement. Dans ce contexte complexe et inédit, le champ éducatif s'est vu basculé dans l'enseignement à distance, sans aucune préparation. Faisant suite à une étude menée sur l'évaluation à distance dans le contexte scolaire libanais, révélant l'importance de l'accompagnement affectif des élèves (Rached, Gharib et Constantin, 2020), la présente recherche vise à identifier dans quelle mesure les enseignants libanais adoptent une posture accompagnante lors de l'E@D, en l'absence de tout contact humain "physique". Menée entre février et juillet 2020, l'étude s'intéresse au secteur éducatif libanais, émettant l'hypothèse que l'enseignant, de par sa posture accompagnante, peut contribuer au développement cognitif et affectif des élèves, à distance.

Cadre théorique

De nombreux chercheurs se sont penchés sur le concept de posture dans l'accompagnement, caractérisant souvent des pratiques d'aide ou de soutien assurées aux apprenants (Annoot, 2014 ; De Ketele 2014 ; Jorro, De Ketele et Merhan, 2017 ; Rached, 2019 ; Raucent, Verzat et Villeneuve, 2010). Dans l'étude menée, la posture accompagnante exprime la "manière d'être" et la "manière d'inter- agir" de tout enseignant en contact avec l'élève. Elle se révèle dans sa capacité à promouvoir les compétences émotionnelles des élèves lors de l'E@D.

Posture accompagnante des enseignants

Pendant ces dernières années, face à l'hétérogénéité des élèves en classe, de nombreuses institutions éducatives ont mis en place des dispositifs d'aide pour lutter contre l'échec, revêtant diverses appellations comme tutorat, soutien scolaire, module de renforcement ou autres. Derrière ces nombreuses appellations se trouve le souhait d'instaurer des dispositifs d'accompagnement pour personnaliser le parcours de chaque élève, s'adressant à l'ensemble de sa personnalité, au regard de l'importance de son développement global et intégral comme personne humaine (Paul, 2006 ; Wouters et De Ketele, 1993). Or, il s'est avéré que la réussite de ces pratiques repose sur l'importance de la posture accompagnante des enseignants à tout moment, sans être nécessairement insérée à un dispositif (Rached et Gharib, 2020). Dans la présente recherche, la posture accompagnante est concrétisée par deux composantes qui sont la "manière d'être" fondée sur le binôme "cognition/émotion" et la "manière d'inter-agir" basée sur le binôme "action/interaction", formant une structure complexe et interreliée. Concernant la "manière d'être" de l'enseignant, elle comprend l'empathie et la flexibilité, à la fois cognitives et émotionnelles. L'empathie permet à l'enseignant de comprendre non seulement les pensées des élèves mais aussi leurs ressentis, les encourageant à les identifier et à les exprimer (Decety, 2009). La flexibilité permet à l'enseignant d'inhiber ses pensées ainsi que ses comportements

inadéquats (Houdé, 2018) afin de rester attentif à sa communication aussi bien verbale que non verbale. Cette dernière garde sa force, y compris à distance, se transmettant par l'expression du visage de l'enseignant ainsi que par le timbre de sa voix. Occupant l'espace virtuel à travers le focus de la caméra, le visage semble, à lui seul, suffisant pour transmettre la charge émotionnelle de l'enseignant, notamment par le regard, mécanisme principal de toute communication entre les humains (Descamps, 1993). Quant à la "manière d'inter-agir" de l'enseignant, elle se concrétise par ses actions qui ne sont pas censées être "programmables" (Vial, 2007) mais flexibles, variant selon les situations d'enseignement et d'apprentissage afin de s'ajuster à la singularité des personnes et des situations. Tolérant les échecs, l'enseignant favorise la construction du savoir à partir des erreurs rencontrées, encourageant les élèves à se connecter à leurs ressentis et à les exprimer lors de l'E@D. Favorisant sa posture accompagnante, l'enseignant veille donc à personnaliser le contact avec chaque élève, contribuant à son développement émotionnel afin d'optimiser son développement cognitif.

Compétences émotionnelles personnelles et sociales des élèves

Goleman (2001) confère à l'intelligence émotionnelle un apprentissage par les compétences en les répartissant en quatre : conscience de soi, maîtrise de soi, conscience sociale et gestion des relations. Ces compétences sont reprises par Sander (2016b) à deux niveaux, l'un "intrapersonnel" pour les compétences émotionnelles personnelles, et l'autre "interpersonnel" pour celles qui sont sociales. Par sa posture accompagnante, l'enseignant veille à l'épanouissement de chaque élève et le sensibilise à la présence de l'autre. Il l'aide autant à identifier ses pensées et ses ressentis que ceux de ses pairs, instaurant un climat de classe bienveillant, fondé sur l'échange et la communication. Cette attention portée au bien-être émotionnel individuel et collectif des élèves favorise leur apprentissage puisque l'acte d'enseignement est principalement un acte social et affectif, faisant intervenir les émotions dans l'apprentissage. Aucune activité éducative ne peut se limiter à des activités de nature cognitive, puisque des processus de nature socio-émotionnelle y sont impliqués (Gendron, 2007). Confirmées scientifiquement, les émotions agréables interviennent donc dans l'apprentissage et ne peuvent en être dissociées (Damasio, 2010). Par ailleurs, lorsque l'enseignant fait preuve d'une manière d'être et d'inter-agir constructive et accompagnante, sa posture finit par imprégner chaque élève ainsi que le climat de classe, grâce aux "systèmes de neurones miroirs" qui rendent les émotions et les comportements contagieux (Rizzolatti et Sinigaglia, 2008). Ce constat scientifique de l'éducation par l'exemple responsabilise l'enseignant qui "enseigne ce qu'il est" (André, 2005). C'est ainsi qu'un enseignant bienveillant et chaleureux contribue à promouvoir la bienveillance au niveau du groupe classe et l'inverse est vrai. L'enseignant rigide et froid, axé sur le contenu et l'expertise technique, marque l'ambiance de sa froideur et de sa rigidité. Toutefois, il est important de noter que l'enseignant n'est pas engagé à adopter une attitude positive, mais constructive puisqu'il se doit d'agir en "ami critique", adoptant une "posture de questionnement et de critique constructive et non de critique-

jugement" (De Ketele, 2007, p.5). Il signale les comportements à améliorer avec indulgence et compréhension, omettant les émotions négatives des élèves, mais il les aide à les gérer, les rendant efficaces lorsqu'elles sont bien accompagnées et canalisées (Virat et Cheval, 2017). Les émotions deviennent des moteurs de l'action (Reeve, 2012) et renforcent l'entraide ainsi que la solidarité entre pairs. A distance, cela est-il possible ? Face à l'écran, comment l'enseignant gère-t-il sa "manière d'être" et sa "manière d'inter-agir" ? Peut-il faire exister l'autre à distance ? Peut-il témoigner d'une présence dans l'absence ?

Cadre méthodologique

S'inscrivant dans le paradigme post-positiviste, l'étude se base sur une approche principalement quantitative, complétée par une approche qualitative afin de creuser certains résultats issus du questionnaire. Il s'agit d'une recherche exploratoire à visée interprétative qui tend à explorer la posture des enseignants et à investiguer l'enseignement des compétences émotionnelles personnelles et sociales des élèves, dans l'E@D. L'étude est menée auprès de 200 enseignants, tous cycles confondus, dans la région de Beyrouth et banlieue. Deux outils complémentaires ont été retenus : l'enquête par questionnaire, conduite auprès des enseignants et deux focus groups menés auprès des élèves, au nombre de 8 pour l'un et de 10 pour l'autre. Les élèves ont été amenés à verbaliser leur point de vue en choisissant des enseignants qu'ils estiment bienveillants et qui ont pu développer leurs compétences émotionnelles personnelles et sociales lors de l'enseignement à distance. Les élèves ont été sélectionnés au hasard parmi ceux qui ont suivi des cours à distance. Pour répondre au questionnaire, il leur a été demandé de penser à des enseignants qui ont une posture accompagnante, manifestant une bienveillance et une souplesse dans la communication et le comportement, adoptant des pratiques pédagogiques qui les intéressent.

Dans le respect des normes éthiques, en plus des informations personnelles, deux parties constituent le questionnaire : la première vise la posture accompagnante des enseignants et porte sur les questions qui ciblent les variables relevant de sa "manière d'être" et de sa "manière-d'inter-agir" ; la seconde concerne le développement des compétences émotionnelles des élèves et comprend les variables relatives aux dimensions "personnelles" et "sociales". Le questionnaire se constitue majoritairement par des questions fermées, sous forme de pondérations de 1 à 6, avec certaines comprenant un choix multiple. À la fin du questionnaire, trois questions ouvertes favorisent l'expression libre des enquêtés afin de recueillir des compléments d'informations quant à la perception des enseignants sur leur posture accompagnante et sur leur capacité à développer les compétences émotionnelles des élèves dans l'E@D.

Par souci de clarté, nous présentons dans le tableau 1, ci-dessous, les variables ainsi que les indicateurs concernés par l'élaboration du questionnaire.

Tableau 1: variables et indicateurs à l'étude

Variables			**Indicateurs**
Informations personnelles		Enseignants enquêtés	Sexe
			Discipline
			Région
1er partie	Posture accompagnante des enseignants, à distance	Manière d'être *Cognition/émotion: empathie et flexibilité*	Identifier et comprendre les pensées et les ressentis des élèves
			S'adapter aux idées et aux comportements des élèves
			Maîtriser sa communication verbale
			Maîtriser sa communication non verbale
		Manière d'inter-agir *Action/interaction: savoir et pratiques pédagogiques*	Varier les méthodes d'enseignement (débat, travail collaboratif, jeux de rôle…)
			Favoriser les scénarii culturels qui enrichissent le lexique émotionnel des élèves
			Adopter un discours sans jugement et construire sur les erreurs des élèves
			Fournir les savoirs et les connaissances
			Personnaliser le contact et prendre soin de chacun
2e partie	Développement des compétences émotionnelles des élèves, à distance	Emotionnelles personnelles	Aider les élèves à reconnaître leurs pensées et leurs ressentis
			Aider les élèves à exprimer leurs pensées et leurs ressentis
			Aider les élèves à maîtriser leurs pensées et leurs ressentis
		Emotionnelles sociales	Aider les élèves à accepter les idées et les émotions des autres
			Sensibiliser les élèves à l'entraide et à la solidarité
			Promouvoir un climat de classe bienveillant

Source : Elaboration personnelle

Quant au guide d'animation, adressé à deux focus groups formés d'élèves du Collège et du Lycée, dans la région de Beyrouth et banlieue, il s'articule autour des mêmes rubriques du questionnaire : la posture accompagnante des enseignants et les compétences émotionnelles personnelles et sociales des élèves. Pour chacune de ces rubriques, nous avons élaboré des questions ouvertes encourageant les élèves à émettre librement leurs opinions, ce qui nous a permis d'éclairer davantage les réponses du questionnaire. Le tableau 2, ci-dessous, illustre les questions relatives à chacun des axes de l'entretien.

Tableau 2: grille d'animation

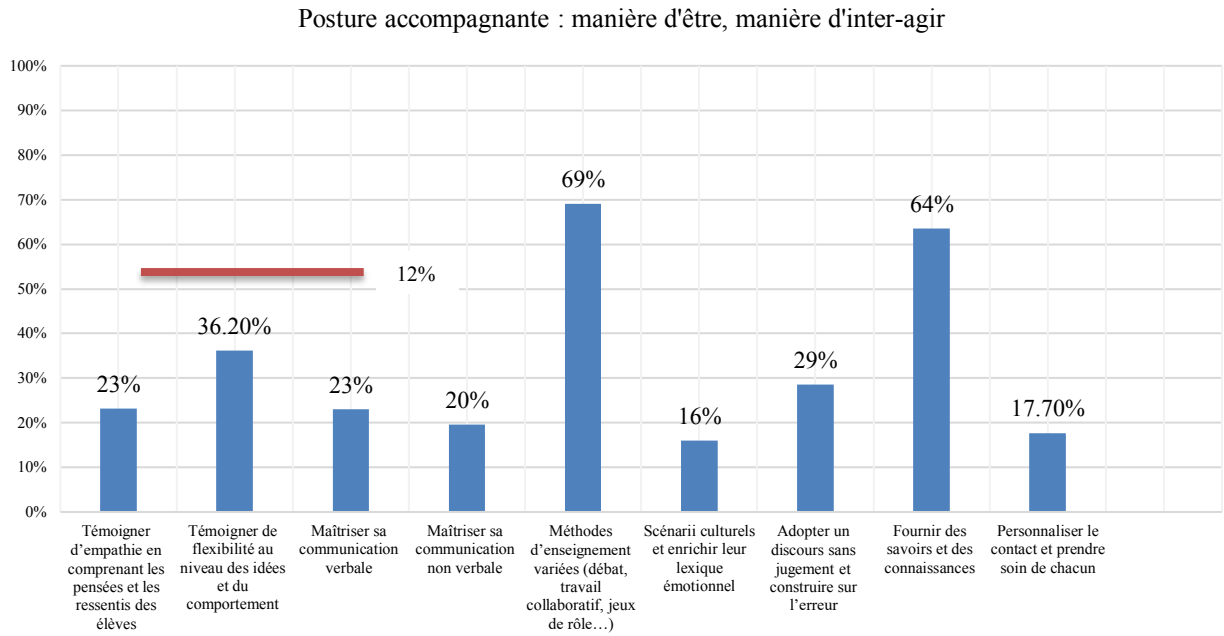
Posture accompagnante des enseignants	Manière d'être *Cognition/émotion : empathie et flexibilité*	Comment les enseignants réagissent-il face à vos idées ? Comment réagissent-ils face à vos émotions ?
		Comment qualifiez-vous la communication des enseignants ? au niveau verbal ? au niveau non verbal ?
		Dans quelle mesure vos enseignants vous encouragent-ils à l'autoévaluation, en vous incitant à réfléchir sur votre comportement et votre savoir ?
	Manière d'inter-agir *Action/interaction : savoir et pratiques pédagogiques*	Quelles méthodes d'enseignement vos enseignants mettent-ils en œuvre ? Qu'en pensez-vous ?
		Quels messages vous sont transmis à travers les textes exploités et les activités mises en place ?
		Dans quelle mesure les cours contribuent-ils à enrichir votre lexique émotionnel ?
Développement des compétences émotionnelles des élèves	Emotionnelles personnelles	Combien vous est-il possible d'exprimer vos émotions pendant les cours à distance ?
		Que pensez-vous du discours de vos enseignants à votre égard ?
	Emotionnelles sociales	Quel est l'impact des activités sur votre relation avec vos camarades ?
		Comment qualifiez-vous votre climat de classe dans l'enseignement à distance ?

Sur l'ensemble des questionnaires envoyés par les réseaux sociaux, 180 étaient de retour. Les résultats ont été dépouillés par le biais du logiciel SPSS. Quant aux questions ouvertes du questionnaire et au corpus des focus groups, ils ont fait l'objet d'une analyse de contenu thématique. Une fois effectuée, la retranscription des verbatim a été suivie du codage pour mettre en évidence les thèmes abordés et, enfin, par la catégorisation pour le classement des thèmes qui ont permis l'analyse, l'interprétation et le croisement des données recueillies.

Analyse et discussion des résultats

Nous rappelons que l'étude comprend deux axes : la posture accompagnante des enseignants et le développement des compétences émotionnelles personnelles et sociales des élèves. Nous présentons les résultats issus du questionnaire (pourcentages et réponses aux questions ouvertes), complétés par les verbatim des élèves, collectés dans les focus groups.

Le graphique 1, ci-dessous, illustre les pourcentages relatifs à la posture accompagnante des enseignants qui comprend la manière d'être (empathie et flexibilité) et la manière d'inter-agir (savoirs et pratiques pédagogiques).



Graphique 1: Caractéristiques de la posture accompagnante des enseignants

D'une manière générale, les enseignants sont peu nombreux à être, à la fois, empathiques et flexibles (12%). A un niveau nuancé, les enseignants se révèlent peu empathiques (23%) et davantage flexibles (36,2%) lors de l'E@D. Ils avancent une *"tension"* et un *"stress"* pour *"finir les programmes"* et *"boucler l'année"*, ajoutant que l' E@D est *"difficile", "on ne voit pas les élèves", "à peine, on arrive à leur parler et à gérer la classe"*. Sans doute la *"tension"* et le *"stress"* ressentis pourraient-ils expliquer le pourcentage minime d'enseignants qui estiment maîtriser leur communication non verbale (20%) et verbale (23%) dans l'E@D.

Concernant la flexibilité témoignée dans l'E@D, elle relèverait probablement d'un trait de caractère culturel, propre aux Libanais. Vivant dans un contexte géo-politique instable, ils sont constamment tenus de s'adapter aux fluctuations et aux imprévus, pour "répondre aux exigences nouvelles de l'environnement" (Russell, 2000, p. 166). Mise à l'épreuve au quotidien, cette adaptabilité fait partie intégrante du comportement des Libanais, se révélant également dans leurs pratiques professionnelles, selon les élèves. Ces derniers estiment dans les focus groups que *"les enseignants varient les méthodes", "ils acceptent de reprendre l'explication d'une autre manière, si on leur dit", "ils sont flexibles"*, leur reprochant parfois de monopoliser la parole, soulignant que *"les enseignants parlent*

trop", "tout le temps", "ils ne nous laissent pas le temps de nous exprimer", "c'est toujours le cours et l'explication". De même, ils décrivent de *"nombreux enseignants"*, qui sont *"stressés", "énervés",* qui *"veulent terminer leur programme"* et qui *"pensent tout le temps aux notes"*. Toutefois, certains élèves ont tenu à préciser *"qu'il y a des enseignants qui prennent le temps de s'occuper d'eux*" et "*de les comprendre*" ; ils sont "*patients*", "*à l'écoute*" et "*attentifs*". Certains élèves se sont dit "*étonnés*" de voir combien leurs enseignants "*ont changé*" dans l'E@D. Ils ont dit "*qu'il existe par exemple un enseignant qui plaisantait beaucoup*" et *"il n'est plus comme avant", "il est tendu*", "*fatigué", "il nous fait taire tout le temps pour finir l'explication" ; "c'est dommage",* regrettent certains.

D'une part, la culture des notes et des résultats, mentionnée par les élèves et les enseignants, ne semble pas propre au Liban puisque la littérature fait état d'enseignants qui affirment qu'il n'est pas nécessaire de parler d'émotion et d'empathie à l'école (Zanna, 2019). D'autre part, cette attention portée aux résultats est accentuée par la société contemporaine, gouvernée par les agences de notation, instaurant une culture de l'accréditation qui risque d'être dangereuse dans un monde où les élèves trouvent déjà du mal à vivre l'école et ses pratiques (De Ketele, 2017). En devenant tributaire des étiquettes et des labels, cette situation pourrait compromettre la mission première des institutions éducatives qui consiste à s'adresser aux élèves, d'une manière holistique afin de former des citoyens en devenir, empreints de valeurs humaines et aspirant à "se vouer-à-l'autre" (Lévinas, 1995).

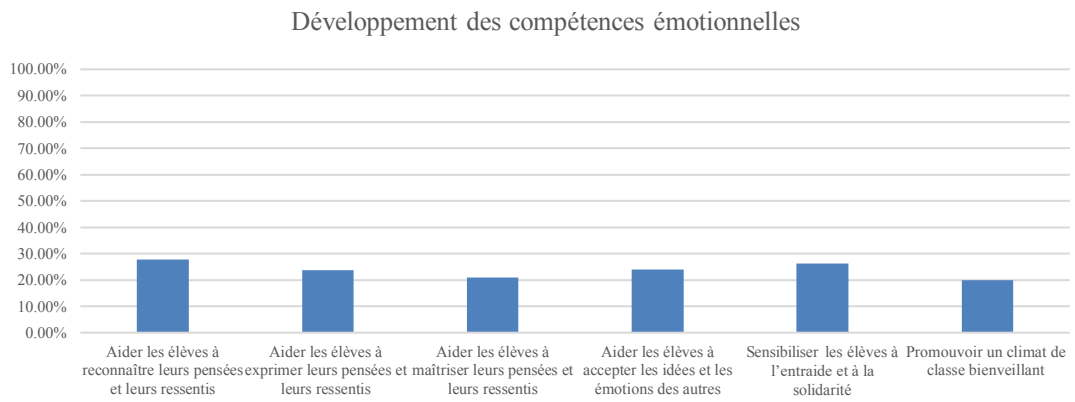
Par ailleurs, la double crise sanitaire et socio-économique qui a frappé le pays des Cèdres a fortement fragilisé le secteur éducatif. De nombreuses institutions éducatives privées se sont retrouvées sans ressources financières, car beaucoup de parents d'élèves ne pouvaient pas payer toutes les scolarités. Cela n'a pas tardé à avoir des retombées directes sur les salaires d'une grande majorité d'enseignants qui ont vu leurs revenus réduits à moitié, dans un contexte particulièrement instable, frappé par des secousses violentes telle que l'explosion du 4 août qui a fait des centaines de morts et des milliers de blessés et de réfugiés. Ce contexte stressant externe est doublé du contexte stressant interne, dû à la confusion entre vie privée et vie professionnelle, venant s'ajouter aux problèmes logistiques liés à la connexion internet. De surcroît, cette tension interne est renforcée par la tâche des "leçons particulières", dispensées par les enseignants en plus de leurs temps de travail, pour arrondir leur fin de mois.

Sans doute cette culture des leçons particulières pourrait-elle justifier le taux élevé (71.4%) alloué au manque d'attention accordé par les enseignants à la "construction sur l'erreur en classe", contre peu (29%) qui le font. Pourtant, les découvertes neuroscientifiques confirment l'importance du retour sur l'erreur, l'apprentissage mettant en évidence les "représentations préalables et les compétences actuelles" des élèves "pour s'efforcer de construire du neuf" (Astolfi, 1997, p. 44). Si les résultats

indiquent que les enseignants ne consacrent pas suffisamment de temps à la construction sur l'erreur, ils révèlent que leur intérêt est axé sur la transmission du savoir (63.5%). Selon les élèves, ce savoir est *"transmis", "sans échange"* ni *"discussion",* ce qui laisse penser qu'il ne peut être vecteur de valeurs humaines s'il n'est pas construit et approprié.

Au niveau de la deuxième composante de la posture, relevant de l'inter-agir, elle révèle un pourcentage élevé, alloué aux méthodes variées (69%). Certains enseignants s'estiment *"bien formés à ces méthodes"*. Sans doute sont-ils davantage préparés à la dimension technique qu'à la dimension relationnelle de la gestion de classe à distance. D'ailleurs, le discours des instances officielles (ministère de l'Éducation et direction des écoles) est axé sur les problèmes de la connexion internet et de l'achat d'ordinateurs, sans signaler à aucun moment le bien-être affectif des élèves ni celui des enseignants. De même, selon un dernier sondage de l'UNESCO (2021), les engagements portent notamment sur la réhabilitation des écoles endommagées, l'assistance technique aux enseignants et l'accès au contenu à distance. Il est vrai que les questions logistiques sont importantes mais elles ne sauraient suffire pour assurer un enseignement de qualité, le bien-être affectif des élèves étant essentiel pour les actions scolaires, loin de la peur et des craintes (Lachaux, 2016).

Par ailleurs, les méthodes variées ne semblent pas permettre aux élèves d'exprimer leurs ressentis. Concernant le développement des compétences émotionnelles des élèves qui constituent le deuxième champ de notre étude, il ne s'avère pas la priorité des enseignants. Les pourcentages peu élevés alloués aux composantes de cette variable sont illustrés dans la figure 2, ci-dessous. Les enseignants sont peu nombreux à se soucier d'aider les élèves à reconnaître (27,8%), à exprimer (23,6%) et à maîtriser (21%) leurs idées et leurs ressentis. De même, ils sont peu nombreux à s'intéresser à la vie de classe, en aidant les élèves à accepter les idées et les émotions des autres (24%), à favoriser l'entraide et la solidarité (26,3%) et à promouvoir un climat de classe bienveillant (19,8%).



Graphique 2: développement des compétences émotionnelles des élèves

Pourtant, les émotions favorisent l'apprentissage des élèves et le comportement "de non jugement, d'écoute, d'ouverture" qui respecte "la personne" de l'élève afin qu'il "accepte d'apprendre" (Delannoy, 1997, p. 9). L'apprentissage ne peut ainsi se faire sans l'engagement actif de l'élève (Dehaene, 2018) qui n'est pas "un récipient vide" dans lequel on peut "déverser n'importe quelle connaissance" (Cyrulnik et Morin, 2011, p. 51). Ce constat a même été confirmé par les découvertes neuroscientifiques qui affirment que la motivation des apprenants est favorisée par les enseignants empathiques (Guenguen, 2017). L'enseignement est ainsi voué à l'échec s'il existe une prépondérance de la dimension disciplinaire sur l'apprentissage émotionnel (Zanna, 2019).

De même, dans un monde en perpétuel mouvement, il nous semble dangereux de former les élèves intellectuellement sans s'intéresser à leurs "life skills", qui leur permettent selon l'Organisation mondiale de la santé (WHO, 1999, cité par Jones et Lavallee, 2009, p. 159) "d'adopter un comportement positif et adaptatif". C'est ainsi qu'ils pourront être en phase avec les mutations de leur environnement et affronter efficacement les exigences et les défis de la vie quotidienne (WHO, 1999, cité par Jones et Lavallee, 2009). Or, comment cela peut-il avoir lieu lorsque seulement 27,8% des enseignants encouragent l'expression des élèves et veillent à enrichir leur lexique émotionnel ? Par conséquent, il nous semble urgent de rendre les enseignants conscients qu'ils ne peuvent se limiter à l'exécution des tâches mais qu'ils devraient réaliser l'importance du "chronosystème" (Bronfenbrenner, 1979). Adopter une posture accompagnante contribue à assurer une formation intégrale aux élèves, devenue incontournable, afin d'aider enseignants et élèves à faire face aux transitions écologiques qui les affectent tant sur le plan personnel que sur le plan de l'environnement.

Enfin, à la lumière des résultats, nous pouvons constater que les postures des enseignants dans l'E@D se situent sur un continuum (Fig.1) allant de la posture accompagnante basée sur la flexibilité et l'empathie jusqu'à la posture exécutante, axée sur la tâche et inspirée de l'enseignant "exécutant" décrit par Meirieu (2018). Au centre se trouveraient les enseignants aux postures nuancées. Ces derniers ainsi que les enseignants exécutants sont appelés à tendre vers la posture accompagnante, flexible et empathique, afin de faire "advenir l'humanité dans l'homme" (Meirieu, 2019), notamment en temps de crise.

Figure 1 : Continuum illustrant la posture des enseignants dans l'E@D (Source : Elaboration personnelle)

Conclusion

Dans le contexte de l'étude, la posture accompagnante des enseignants enquêtés ne semble pas suffisamment favorisée dans l'E@D puisqu'elle s'est révélée peu centrée sur les ressentis des élèves, n'encourageant pas leur expression émotionnelle. Axés sur le savoir, la majorité des enseignants n'arrivent pas à prendre soin de l'ensemble de la personnalité des élèves ni à viser leur formation intégrale, croulant sous le stress et la tension, victimes d'un contexte libanais instable et d'une culture des notes qui ne laisse pas suffisamment de temps à la construction du savoir et au développement de la personnalité.

Par ailleurs, les instances éducatives publiques et privées n'aident pas non plus, puisqu'à aucun moment les compétences émotionnelles des élèves ne sont signalées. L'attention portée au bien-être émotionnel des enseignants ne semble pas préoccuper les responsables, les formations étant axées sur l'aspect logistique et technique, dimension importante certes mais pas suffisante. Pour enseigner et promouvoir les compétences émotionnelles, les enseignants devraient les développer et être préparés à les enseigner. Or, plusieurs enseignants continuent de regretter le fait de ne pas être formés suffisamment pour répondre aux besoins émotionnels des élèves (Beaumont, 2019). De surcroît, comment réussir à transmettre un climat constructif si les enseignants ne le vivent pas, au regard des "systèmes de neurones miroirs" qui rendent les comportements contagieux (Rizzolatti et Sinigaglia, 2008) ? Cela peut-il avoir lieu en présence d'enseignants décrits par les élèves comme étant "*peu disponibles*", "*facilement irritables*" et qui "*crient la plupart du temps*" ?

La posture accompagnante, nécessairement «intra et inter» relationnelle, est une urgence, *a fortiori* à distance, où enseignants et élèves éprouvent le besoin d'échanger et de communiquer, dans un contexte libanais qui met à rude épreuve le bien-être, voire l'espérance des personnes. Témoigner d'une présence dans l'absence à travers une posture accompagnante, empathique et flexible, incitant à l'action et à l'inter-action, contribue à la mise en place d'un environnement accompagnant, nécessaire dans l'E@D, notamment en temps de crise, afin «d'ouvrir les jeunes sur le vivant» (Rabhi, 2016).

Finalement, il serait bon de mener une étude à grande échelle, permettant de généraliser les résultats en vue de vérifier si l'on peut établir une corrélation entre posture accompagnante des enseignants et le développement cognitif et affectif des élèves. Dans ce sens, il serait intéressant de procéder à une étude diachronique parallèle, visant à mettre en regard ces deux grandes variables. Sans doute l'étude de la posture accompagnante des enseignants, combinée à l'étude du développement cognitif et affectif des élèves, pourrait-elle offrir une voie de recherche pour enrichir le monde éducatif, levier du monde en devenir.

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NOVAS ABORDAGENS AO CONCEITO DE MANUAL ESCOLAR (EM DIGITAL): EVIDENCIAS, CONCLUSÕES E DESAFIOS DO PROJETO FAINA

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Abstract

This research appears within the scope of the pedagogical monitoring process by the Portuguese Catholic University to the FAINA 1: 1 Project, developed in the School Group of Montemor-o-Novo between the years 2017 and 2019. This Group assumed the commitment of a class of 7th year abdicate the traditional paper school manual in all subjects, throughout the 3rd cycle, having available to each student a space of digital content installed on a tablet. Based on the selection, creation, and availability of the contents of all subjects by the teachers, using tablets, implying the construction of a digital manual, the FAINA Project constituted a driving element of a pedagogical innovation strategy. It was intended, therefore, to identify, during the three years of development, a change in the educational methodologies and strategies on the part of the teachers and the ability of the students to adapt t new context. Adopting a mixed methodology, by conducting interviews, applying questionnaires, observing classes and document analysis, the Project's potential was seen as a driver for breaking the traditional teaching paradigm and an active teaching-learning process.

Keywords: School Manual, Digital Content, Teaching, Learning, Virtual Learning Environments

Resumo

A investigação apresentada surge no âmbito do processo de monitorização pedagógica pela Universidade Católica Portuguesa ao Projeto FAINA 1:1 desenvolvido no Agrupamento de Escolas de Montemor-o-Novo entre os anos 2017 e 2019. Este Agrupamento assumiu o compromisso de uma turma de 7º ano abdicar do manual escolar em papel em todas as disciplinas, ao longo de todo o 3º ciclo, tendo ao dispor para cada aluno um espaço de conteúdos digitais instalados num tablet. Assente na seleção, criação e disponibilização dos conteúdos de todas as disciplinas por parte dos professores, recorrendo aos tablets,

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implicando a construção de um manual digital, o Projeto FAINA 1:1 constituiu um elemento impulsionador de uma estratégia de inovação pedagógica. Pretendeu-se, assim, identificar ao longo dos três anos de desenvolvimento do Projeto uma alteração das metodologias e estratégias educativas por parte dos docentes e da capacidade de adaptação por parte dos alunos. Adotando uma metodologia mista, através da realização de entrevistas, da aplicação de questionários, da observação de aulas e da análise documental testemunhou-se o potencial do Projeto enquanto propulsor de rotura do paradigma tradicional de ensino e de um processo de ensino-aprendizagem ativo.

Palavras-chave: Manual, Conteúdos Digitais, Ensino, Aprendizagem, Ambientes Virtuais de Aprendizagem

Marcos introdutórios

O trabalho realizado emerge da realização de um processo de monitorização pedagógica pela Universidade Católica Portuguesa ao Projeto FAINA 1:1, desenvolvido no Agrupamento de Escolas de Montemor-o-Novo no triénio 2017 - 2019. Este Agrupamento comprometeu-se a que uma turma de 7º ano de escolaridade abdicasse do manual escolar em papel em todas as disciplinas e a disponibilizar a cada aluno um espaço de conteúdos digitais instalados num dispositivo digital (tablet).

A filosofia deste Projeto defendia a criação e a disponibilização de conteúdos digitais de todas as disciplinas por parte dos professores, recorrendo aos tablets, implicando a construção e coleta de recursos educativos digitais que poderiam constituir um elemento impulsionador de uma estratégia de inovação pedagógica dando, assim, forma a um manual digital. Esta iniciativa defendia ainda as diferentes potencialidades das ferramentas digitais, visando a alteração de um paradigma de ensino tradicional promovendo um processo de ensino-aprendizagem mais ativo, interativo e individualizado. Desta forma, o FAINA 1:1 visava ainda testar todas, ou quase todas, as variáveis relacionadas com o uso de recursos educativos digitais, em substituição do manual (seja em papel seja digital).

Foi assim possível identificar ao longo dos três anos de implementação do FAINA 1:1 uma alteração das metodologias e estratégias de ensino-aprendizagem e uma rutura com os tradicionais paradigmas associados a estas práticas.

Neste artigo abordar-se-ão alguns conceitos teóricos que sustentaram todo o percurso investigativo, o desenho da investigação concretizada, assim como os principais resultados daqui advindos, não descurando linhas orientadoras que poderão nortear uma possível implementação do Projeto a um nível mais macro.

O manual nas sociedades educativas

Do papel ao digital

Sempre que os Estados pretenderam escolarizar as populações, o manual ocupou um lugar de destaque enquanto prescritor de tudo o que se desejava que fosse transmitido: os ideais do liberalismo, os modelos políticos de leste, as ditaduras fascistas, o neocolonialismo, entre outros, estiveram sempre presentes na concepção de manuais escolares, de forma acentuada. Os manuais escolares serviram e servem os Estados e o poder político e económico nas suas necessidades de centralização e de controlo dos sistemas educativos. (Tormenta, 1999, p.193)

O manual é um recurso utilizado no processo de ensino aprendizagem desde que Gutenberg nos trouxe a imprensa e a possibilidade de multiplicar os livros de uma forma mais rápida e barata. A importância do manual é corroborada, entre outros autores, por Pingel (2010, p.7) ao afirmar que "Textbooks are one of the most important educational inputs: texts reflect basic ideas about a national culture, and ... are often a flash-point of cultural struggle and controversy." e por Métoudi & Duchauffour (2001, citado por Fernandes, 1999, p. 404) ao assumirem que "O manual é também entendido como um objeto de conforto para o professor, pois ajuda-o a preparar as aulas e alivia a carga de materiais que teria de coletar.".

Há algumas centenas de anos os livros eram manuscritos por monges copistas, de disseminação muito reduzida e naturalmente bastante dispendiosos para quem os teria de comprar. No entanto, de uma forma organizada, os manuais vulgarizam-se a partir do momento em que houve a necessidade de "industrializar" o ensino, ou antes, a instrução. Este processo ocorreu de forma desigual no mundo, mas terá coincidido com a 1ª revolução industrial, tornando-se um instrumento e recurso incontornável a partir dos finais do Séc. XIX, princípios do Séc. XX.

Os livros escolares utilizados pelos nossos pais ou avós, segundo as crónicas e as memórias, eram religiosamente estudados da primeira à última página e cuidadosamente manipulados, pois teriam de ser reutilizados pelos membros mais novos da família. Importa compreender que estes manuais tinham inicialmente um custo bastante elevado devido aos serviços complexos e morosos de tipografia e às tiragens reduzidas justificadas pela pouca existência de público. Apesar destes constrangimentos, o regime de livro único é algo que aparece sedimentado com o Estado Novo. Durante a primeira república (1910 a 1930) os livros eram escolhidos localmente e havia concursos para a produção de livros, promovidos e regulados pelo governo da República (Figura 1).

Considerando que todas as referidas obras podem ser uteis ao ensino a que se destinam se os professores as aproveitarem, não como texto, que deva ser decorado pelos alumnos em inutil esforço mnemonico de instrucção livresca, mas como ponto de partida para apropriada exposição oral, secundada pela lição das coisas:

Hei por bem decretar o seguinte:

1.º Ficam approvados todos os referidos livros para uso das escolas primarias e de ensino normal primario, sem prejuizo da reforma de instrucção publica que o Governo da Republica trata de promulgar para bem da educação nacional.

2.º Os autores ou editores dos livros approvados não poderão pô-los á venda antes do prazo de quarenta dias, a contar da publicação d'este decreto, e sem que pela Direcção Geral da Instrucção Primaria seja previamente verificado que as obras agora approvadas estão impressas em papel que não prejudique a vista dos alumnos, actualizadas segundo a situação politica do Estado e cuidadosamente revistas.

Dado nos Paços do Governo da Republica, aos 9 de dezembro de 1910.=O Ministro do Interior, *Antonio José de Almeida.*

Fig. 1. Parte final de Decreto Lei que promulgava livros escolares (DR n. 56, 10 de dezembro de 1910)

A partir dos anos 30 do século passado, até aos anos 70, o livro em cada disciplina era único. Todas as escolas e professores usavam o mesmo livro e isso garantia ao sistema uma uniformidade e qualidade na transmissão do conhecimento e dos valores. Podemos situar-nos aqui na época do livro único em Portugal.

Com a evolução da indústria de produção livreira e, fundamentalmente, com o aumento da frequência escolar, os manuais escolares expandiram-se de uma forma "absoluta". Apareceram diferentes autores a escrever manuais sobre os mesmos currículos, diferentes editoras a disputar um mercado apetecível, mas publicações com tiragens reduzidas. Estes fatores acabaram por fazer subir os custos de um bem que era de primeira necessidade.

O desenvolvimento da ciência trouxe o mundo digital e a Internet para a Sociedade, permitindo que todas as atividades, das económicas às sociais e artísticas, pudessem usufruir dos instrumentos a que deram origem.

Curiosamente, ou talvez não, é a Escola uma das organizações que mais tempo demora a assimilar o digital nos seus processos, particularmente se relacionados com os métodos e estratégias pedagógicas. Os processos administrativos e de organização logística são relativamente fáceis de implementar e de consolidar, ao contrário do que acontece nos domínios da pedagogia.

Numa análise mais atenta deste tema sobre a realidade da sala de aula percebemos que aqui cabe ao docente o desenvolvimento do currículo e, de forma tradicional, este adota estilos e métodos que experimentou ou a que foi sujeito enquanto aluno.

O digital, na sua plenitude, nunca foi absorvido como um comportamento ou processo de modelação, fundamentalmente porque os docentes não os utilizavam nas suas aulas.

Contudo, a criação e desenvolvimento do Plano Tecnológico da Educação, em 2007, tenta suprir uma das carências invocadas pelos docentes para o pouco uso das TIC na sala de aula – a falta de equipamento (Paiva, 2002). As escolas (grande parte delas) são dotadas de computadores em todas as salas, quadros interativos, redes WiFi, etc. No entanto, apesar de previsto em termos do Plano, a formação dos docentes para o uso das tecnologias foi esquecida e os equipamentos, com o passar dos anos, ficaram obsoletos.

Muitas escolas tentam atualizar os equipamentos e motivar os seus professores para o digital como ferramenta promotora do sucesso escolar e da inclusão (social e digital) e até algumas editoras de livros escolares propõem às escolas, com algum sucesso, o uso de materiais digitais que complementam os seus manuais em papel.

Deste modo, testemunhamos atualmente uma sociedade marcada por mudanças tecnológicas no domínio da informática e das telecomunicações há alguns anos designada por Sociedade de Informação a que alguns autores (Almeida, 2007; Almeida, 2004; Moreira, 2007) acrescentam a palavra conhecimento. Contudo, mais enfatizante do que estas denominações é o facto de estarmos imersos numa sociedade digital marcada pelo contacto frequente com as tecnologias digitais e com a Internet.

Os impactos do digital na aprendizagem

O projeto Maneele (Manuais escolares eletrónicos), que inspirou a realização do Projeto FAINA 1:1 pelos seus princípios norteadores, promovido também pela DGESTE Alentejo, e que decorreu no Agrupamento de Escolas de Cuba entre 2013 e 2016, permitiu obter formação empírica pertinente sobre os impactos do digital na aprendizagem.

Concluiu-se, neste projeto pioneiro, de uma forma clara, que os alunos que usaram os manuais digitais sediados nos seus tablets não obtiveram piores classificações escolares do que teriam se usassem os manuais em suporte papel. Esta constatação tem em conta os resultados comparados da turma experimental com outras turmas do mesmo ano e com a evolução dos alunos da turma ao longo dos vários anos de escolaridade (Lagarto & Marques, 2014).

No entanto, outras competências foram adquiridas, de acordo com a perceção dos próprios alunos e dos seus professores – capacidade de recolher e selecionar informação, perceção dos perigos da utilização da internet, conhecimento de softwares de produção de conteúdos (vídeo e áudio) e colocação de conteúdos na Web. Estas competências, não expressamente visíveis no currículo oficial, estruturado, são claramente competências essenciais para vida no Séc. XXI de acordo com o Fórum Económico Mundial (World Economic Forum, 2015) ou o Perfil do Aluno à saída da escolaridade obrigatória (Oliveira Martins, 2017).

São múltiplos os trabalhos de investigação que procuram constatar a existência (ou não) do impacto positivo das TIC nas aprendizagens dos alunos, pelo que se coloca uma questão-chave "Com a utilização das TIC os alunos aprendem mais e melhor?". Para esta questão que emerge com alguma frequência a literatura já revela algumas respostas com tendência positiva, mas não absoluta.

Porém, existem bastantes autores e organizações que ainda levantam dúvidas sobre os reais impactos do uso de tecnologias digitais no ensino e na aprendizagem (Costa & Peralta, 2007 e Thompson, 2013). Uma investigação desenvolvida por um grupo de docentes, mestrandos e doutorandos da Universidade Estadual de Campinas concluiu que a literatura era escassa em "evidências empíricas baseadas em estudos de natureza experimental" que sustentassem a hipótese de que a utilização dos computadores melhorava o desempenho escolar dos alunos (Dwyer et al., 2007, p. 6, citados em Lagarto & Marques, 2014). Esta é também a conclusão de um estudo efetuado no Quebec a mais de 6000 alunos e 300 docentes, que antes não tinham usado iPad para tarefas de aprendizagem e em que poucos ou nenhuns estudantes e professores consideraram que estes dispositivos lhes tinham possibilitado aprenderem mais (Karsenti & Fievez, 2013).

Todavia, outros autores relevam que existem de facto melhorias na aprendizagem quando se usam adequadamente as tecnologias. O relatório da European Schoolnet, (Balanskat, Blamire & Kefala, 2006) já nessa altura referia que havia impactos positivos na aprendizagem, para além de outros fatores como fatores motivacionais, aprendizagem autónoma e trabalho e grupo:

> 1. ICT impacts positively on educational performance in primary schools, particular in English and less so on science and not in mathematics.
> 2. Use of ICT improves attainment levels of school children in English- as a home language- (above all), in Science and in Design and technology between ages 7 and 16, particularly in primary schools (3).
> 3. In OECD countries there is a positive association between the length of time of ICT use and students' performance in PISA mathematics tests.

> 4. Schools with higher levels of e-maturity demonstrate a more rapid increase in performance scores than those with lower levels.
> 5. Schools with good ICT resources achieve better results than those that are poorly equipped.
> 6. ICT investment impacts on educational standards most when there is fertile ground in schools for making efficient use of it.
> 7. Broadband access in classrooms results in significant improvements in pupils' performance in national tests taken at age 16.
> 8. Introducing interactive whiteboards results in pupils' performance in national tests in English (particularly for low-achieving pupils and for writing), mathematics and science, improving more than that of pupils in schools without interactive whiteboards. (Balanskat et al., 2006, p.3)

Compreende-se ainda, de uma forma sustentada, que existe um maior envolvimento e motivação dos atores, nomeadamente dos alunos e dos docentes (Dwyer, Wainer, Dutra, Covic, Magalhães, Ferreira, Pimenta & Cláudio, 2007) e até dos pais que, quando chamados a expressarem a sua opinião, indicam que os filhos têm uma atitude mais positiva perante os trabalhos de casa e começaram a dialogar mais sobre as atividades da escola (Burden, Hopkins, Male, Martin & Trala, 2012). O número de estudos que revelam claramente que as TIC integradas na educação favorecem as aprendizagens, para além do desenvolvimento de competências que ultrapassam as cognitivas, encontram-se em maioria, sendo consideradas "como uma das oportunidades chave para melhorar e inovar a educação e a aprendizagem" (Law, Pelgrum & Plomo, citado em Tornero & Pi, 2013).

No seu estudo de avaliação e acompanhamento do projeto Maneele, Lagarto & Marques (2015) concluem que os alunos apresentam níveis de motivação maior, sentem-se à vontade no uso dos equipamentos e dos softwares, adquirem competências comunicacionais do mundo digital, mas nada disto parece fazer melhorar as suas classificações académicas.

Na verdade, estas possíveis mudanças só ocorrerão se as recomendações feitas no relatório dos referidos autores forem tidas em conta, nomeadamente no que se refere à formação adequada dos docentes para uma abordagem do ensino com a criação de novos contextos de aprendizagem adequados a estes "novos" alunos.

Os impactos do digital na distribuição de conteúdos

O manual tem sido um recurso presente nas instituições de ensino ao longo do tempo. A revolução digital preconizada por Manuel Castells na sua trilogia sobre o mundo e a Internet (A era da Informação, Galáxia Internet, e Sociedade em Rede) veio dar novo corpo às formas de difusão dos conteúdos curriculares.

Os alunos chegam à Escola com uma quantidade de informação geral que não é obtida nos manuais escolares. O acesso à informação nas fontes digitais facilita as aprendizagens informais e traz mais problemas ao professor e à escola. Como referia Abraham Moles (1974), o saber é disponibilizado pelos media geralmente numa perspetiva economicista, de uma forma fragmentada (em mosaico) e precisa que alguém (na maior parte dos casos o professor) lhe dê o cimento aglutinador.

Os manuais em papel ainda têm (muita) importância, mas cada vez mais as editoras disponibilizam não só os manuais em suporte digital, como lhe dão características interativas e multimédia. São de facto uma mais-valia para a criação de contextos de aprendizagem adequados.

Mas, mesmo já existindo ofertas variadas de manuais em digital podemos ir ainda mais longe na adequação dos conteúdos aos contextos. Os conteúdos mais adequados a cada um dos contextos de aprendizagem que se colocam ao docente podem por ele ser disponibilizados por processos digitais, seja por produção própria, seja pelo uso de recursos educativos digitais, de acesso aberto ou de acesso controlado. Cabe ao professor fazer essa gestão, sabendo que, fazendo isso, está a criar ainda mais condições de sucesso, a induzir o aumento de literacia digital dos seus alunos e a diminuir o custo de aquisição de materiais escolares às famílias. Será este o desafio de um futuro que poderá não ser muito longínquo.

Desenho de investigação

Público-alvo

Ao longo dos três anos de implementação do Projeto FAINA 1:1 a turma, inicialmente a frequentar o 7º ano de escolaridade, foi sofrendo naturalmente alterações na sua constituição, resultantes de saídas e entradas de alunos, assim como foram substituídos alguns docentes que, por questões institucionais, deram lugar a outros que aceitaram o compromisso inerente à filosofia do FAINA 1:1 e que, em conjunto, permitiram dar continuidade a metodologias direcionadas para novos modelos de ensino-aprendizagem. Deste modo, no ano 2019 eram nove os professores que lecionavam na turma em estudo, sendo na sua grande maioria docentes do sexo feminino. Faziam parte da turma dezoito alunos, na sua maioria raparigas (onze) e sete rapazes.

Pressupostos metodológicos

A investigação realizada obrigou, durante três anos, a uma avaliação do impacto do Projeto FAINA 1:1. Esta investigação teve como mote uma grande questão de partida: "Qual o impacto da substituição de manuais em papel por manuais digitais construídos pelos professores e instalados num AVA nas

práticas docentes e nos alunos?". Constituíram objetivos da investigação realizada percecionar as mais-valias e dificuldades de implementação do manual digital; apresentar sugestões de melhoria do Projeto; compreender os efeitos do Projeto nas aprendizagens dos alunos e nas práticas pedagógicas, assim como analisar a forma como foi feito o percurso do trabalho desenvolvido por professores e alunos, não esquecendo a definição das potencialidades do FAINA 1.1. reconhecidas pelos professores, pelos alunos, pelos pais e pela literatura de sustento da temática.

Esta avaliação foi realizada através da aplicação de vários instrumentos de recolha de dados, originais e/ou adaptados periodicamente, de acordo com o momento em que se encontrava a investigação. Constituíram-se instrumentos de recolha de dados três questionários aplicados a alunos, um aplicado aos encarregados de educação e dois a professores; duas entrevistas *focus group* a alunos, uma entrevista semi-estruturada à Diretora do Agrupamento de Escolas de Montemor-o-Novo e uma ao representante da DGESTE Alentejo em conjunto com a diretora de turma da turma em estudo. As notas de campo resultantes das diferentes reuniões, a observação de aulas, as pautas de avaliação dos três anos em análise e os Ambientes Virtuais de Aprendizagem (AVA) utilizados foram os instrumentos privilegiados de todo o percurso investigativo.

Todos os dados recolhidos foram devidamente analisados, adotando-se posteriormente, um processo de triangulação que nos permitiu uma análise cruzada e validação da informação resultante da aplicação dos diferentes instrumentos.

Como suporte da investigação foi construído um modelo de análise (tabela 1) que sofreu adaptações ao longo do processo, justificando, desde o início, a construção dos instrumentos aplicados e permitindo também organizar, analisar e apresentar os dados recolhidos em diferentes formatos (eg. relatórios intercalares da investigação, Ebook, artigos científicos).

Tabela 1: Modelo de análise da investigação

Categorias	Indicadores
Recursos	Conteúdos produzidos pelo professor
	Conteúdos coletados pelo professor
	Espaço de disponibilização do conteúdo
	Estratégia de entrega do conteúdo /ao longo do tempo ou todo de uma vez
	Nível de aceitação/Agradabilidade dos alunos face aos conteúdos
	Estruturação do conteúdo (forma um todo coerente na disciplina)
	Recursos digitais para além dos conteúdos
Práticas pedagógicas	Os professores modificam estratégias pedagógicas
	Os alunos percecionam diferenças nos professores

	Professores optam por estratégias não diretivas/ instrutivistas
	Os professores usam novas ferramentas digitais para suporte da aprendizagem
	Os alunos são chamados a usar ferramentas digitais inseridas no tablet
	Os alunos aderem a um modelo novo de aprendizagem/ motivação
Avaliação	Resultados escolares vs histórico dos alunos
	Perceção sobre a aprendizagem pelos alunos
Tecnologia	Os docentes usam os tablets de forma adequada
	Os ambientes digitais AVA são adequados
	Os tablets têm bom desempenho
	O sinal de wireless é adequado

Os resultados da rutura com o paradigma tradicional de ensino

Recursos

Com a aplicação dos diferentes instrumentos de recolha de dados foi-nos possível, no decorrer de toda a investigação, avaliar práticas e ações associadas à integração dos tablets em sala de aula. Foi propósito da investigação analisar a recolha e produção de conteúdos pelo professor, os espaços selecionados para disponibilizar o conteúdo nas diferentes disciplinas, as estratégias de entrega do conteúdo, o nível de aceitação ou de agradabilidade dos alunos face aos conteúdos, a estruturação do conteúdo e os recursos digitais utilizados para além dos conteúdos. Neste âmbito, os resultados da investigação revelaram que, no que concerne aos AVA, estes foram sendo melhorados ao longo do tempo, constituindo o OneNote a opção privilegiada ao permitir superar obstáculos no processo de transição do manual em papel para um ambiente de recursos educativos digitais. Estes obstáculos surgiram, na sua maioria, aliados a problemas de rede e a dificuldades de sincronização. No entanto, apurou-se que, a apesar da satisfação dos alunos e da facilidade de manuseamento deste AVA, houve professores que resistiram a esta mudança.

O OneNote, na qualidade de AVA facilitador do acesso aos recursos digitais, foi assumido pelos alunos, após todos os esforços realizados, como um livro de fácil consulta em qualquer lugar, não descurando todas as dificuldades de adaptação à sua utilização.

Analisando globalmente a utilização que se fez do OneNote é percetível e transversal a função deste AVA como um dispositivo de disponibilização de materiais de natureza formativa e avaliativa, compostos por conteúdos originais ou mobilizados pelos docentes a partir de fontes especializadas (eg. bases de dados de recursos educativos digitais).

Apurou-se que os materiais facultados e que permitiam aos alunos a resolução de problemas online, com a possibilidade de responderem ou não no mesmo AVA, eram estáticos na sua maioria ainda que recorrendo a ilustrações, mas raramente a vídeos e ficheiros áudio. No que respeita à organização das disciplinas, estas apresentavam-se de diferentes formas, mas geralmente organizadas por módulos/unidades ou por aulas, permitindo uma disponibilização dos conteúdos ao longo do tempo.

Práticas pedagógicas

Outro desígnio da investigação levada a cabo era perceber alguns aspetos relacionados com as práticas pedagógicas e algumas opções tomadas a este propósito. Através da observação de aulas de diferentes disciplinas verificou-se a adoção de dinâmicas e estratégias de ensino distintas que não se revelaram como consequências diretas deste Projeto, mas sim das diferentes características didático-pedagógicas de cada docente.

Verificou-se com clareza o esforço dos professores e dos alunos em usar predominantemente os tablets em sala de aula, com diferentes finalidades e envolvendo diferentes ferramentas. Os tablets tornaram-se, para além do acesso ao repositório de conteúdos, um meio de disponibilização de fichas formativas ou de exercícios individuais e/ou de grupo, cuja resolução era feita através do mesmo suporte, o que rompeu com os recursos tradicionais (eg. o quadro, o caderno e as fichas em papel). Neste contexto, também alguns docentes optaram por explorar outras potencialidades, como a gravação de áudio e a respetiva publicação ou a realização de fichas de avaliação formativa através do software *Kahoot.* Saliente-se que a adoção de dinâmicas interativas, quando bem monitorizadas, poderá constituir alavanca importante na promoção do sucesso.

Constatou-se ainda que a utilização dos tablets em sala de aula e fora dela, permitiu garantir o respeito pelos diferentes ritmos de desempenho e de aprendizagem. Por outro lado, identificou-se alguma desorientação (decrescente) por parte dos alunos no que respeita aos materiais a consultar e AVA a seguir, mas que poderia ser superada com uma maior orientação inicial e controlo por parte do professor. Esta forma de trabalhar em sala de aula rompe com a abordagem em geral expositiva que caracteriza o ensino tradicional e com estratégias de ensino diretivas, mas obrigam a um maior cuidado na explicação de conteúdos e na orientação para a realização de tarefas.

Os dados recolhidos no âmbito desta investigação e posteriormente analisados mostram ainda a falta de unanimidade no que respeita a uma evidente alteração de práticas por parte dos professores. Contudo, a grande maioria dos alunos assumiu que apesar dos professores não os terem ensinado a utilizar os tablets, estes tornaram-se mais criativos.

Avaliação

A avaliação torna-se uma preocupação quando se fala em ensino e aprendizagem e nesta investigação foi uma constante. Relativamente a este tema percebemos que, através da análise das pautas de avaliação dos três anos de implementação do Projeto, a turma em estudo situava-se na posição de uma das turmas com melhores resultados a História, Geografia, Matemática, Educação Visual e Educação Física. Tratou-se sempre de uma turma com resultados de aprendizagem positivos, não exibindo grandes variações ao longo do tempo. Verificou-se uma oscilação na média global do 7º para o 8º ano de 3,57 valores para 3,53 valores respetivamente e uma evolução positiva para o 9º ano apresentando uma média global de 3,76 valores como revela a tabela 2.

Tabela 2: Modelo de análise da investigação

	A	B	C	D	E	F	Global
Português	3,83	2,95	3,08	3,47	3,33	3,29	3,33
Inglês	4,17	3,15	3,12	3,94	3,61	3,88	3,64
Francês				3,56	3,83	3,33	3,55
Alemão	3,67						3,67
Espanhol		3,25	3,48				3,38
História	4,04	3,10	3,56	3,47	3,94	3,67	3,64
Geografia	3,87	2,90	3,24	3,50	3,72	3,42	3,44
Matemática	3,74	2,40	2,72	3,18	3,50	3,21	3,12
Ciências Naturais	3,96	3,00	3,16	3,88	3,78	3,46	3,45
Físico-Química	4,00	2,80	3,44	3,13	3,39	3,50	3,40
Educação Visual	3,96	3,35	3,40	3,71	3,94	3,83	3,69
Educação Física	4,21	3,30	3,64	3,82	3,89	3,67	3,74
Tecnologias de Informação e Comunicação							3,62
Oferta Complementar	4,78	4,05	3,80	4,38	4,39	4,54	4,32
Viver em Português							3,08
Matemática e Realidade							2,69
Comunicar em Língua Estrangeira							3,00
Educação Artística e Artes Plásticas							3,92
Educação para a Saúde							2,69
Global	4,02	3,11	3,33	3,64	3,76	3,62	

Legenda: A a F – turmas existentes. Turma E – turma em estudo

Tecnologia

Perceber de que forma os professores faziam uso dos tablets e se os AVA que adotavam eram ou não adequados foi um dos objetivos propostos. Neste sentido, os dados revelaram que a grande maioria dos alunos não tinha uma opinião concreta face à crescente utilização dos tablets ao longo do tempo, na sala de aula e fora dela, e não foram conclusivos no que diz respeito à melhoria das suas aprendizagens como consequência desta utilização. Relativamente ao acesso à internet identificaram como uma prática mais recorrente e não se registou um aumento de práticas de leitura (no digital ou em papel) como consequência do Projeto.

No que concerne às aplicações utilizadas em sala de aula compreendeu-se que os processadores de texto não eram de utilização frequente e a folha de cálculo, segundo a maioria dos alunos, nunca foi utilizada, tal como os programas gráficos e/ou de desenho. Já, segundo os estudantes, as apresentações audiovisuais e o email foram de utilização constante, assim como os vídeos do Youtube, o Moodle e o OneNote que protagonizou todas as aulas. Quanto às aplicações da Web 2.0 e redes sociais, referiram os alunos que estas também não foram uma opção recorrente. Ainda no contexto da utilização dos tablets em sala de aula constatou-se que, para a maioria, contribuíram para uma maior motivação para estudar.

Contudo, a investigação realizada mostrou que os estudantes envolvidos assumiram que os resultados de aprendizagem não sofreram alterações como consequência da dinâmica de ensino-aprendizagem adotada, que a maioria não estudava nos manuais digitais todos os dias em casa, mas que realizava pesquisas na internet como auxílio à realização dos trabalhos de casa. Por outro lado, a maioria dos professores recorreu nas suas aulas aos tablets para fazer leituras simples enquanto manual digital e para acompanhar a aula através do OneNote. Os tablets foram utilizados em quase todas as aulas para as apresentações de trabalhos de grupo e individuais ou para a realização de fichas, mas não foram utilizados para a realização de testes de avaliação.

Benefícios e dificuldades

Qualquer Projeto confrontar-se-á sempre, apesar das suas mais-valias, com dificuldades e o FAINA 1:1 não foi exceção.

No contexto dos benefícios deste Projeto a investigação apurou que para os alunos ganham destaque a motivação para aprender através de um recurso diferente do habitual e o aumento do nível de participação nas aulas. Os diferentes participantes assumiram também que as diferentes formas de aprender os conteúdos são um valor-acrescentado para a melhor compreensão dos temas. Neste

seguimento, a maioria dos professores reconheceu que os tablets vieram acrescentar qualidade aos trabalhos desenvolvidos, mas não afirmaram que tenham contribuído para uma melhor aprendizagem. Porém, os tablets foram reconhecidos por alguns professores como estimuladores de aprendizagem colaborativa e como um potencial facilitador de aprendizagem.

Já no panorama das dificuldades sentidas identificaram-se duas origens: pessoais e técnicas. Inicialmente registaram-se diferentes obstáculos relacionados com a forma de perspetivar a educação, o conhecimento e as práticas pedagógicas, tendo sido necessário um trabalho permanente de rutura com o paradigma tradicional de ensino. Por sua vez, as questões de ordem técnica marcaram todo o percurso destacando-se as dificuldades de acesso à internet, de sincronização e de adaptação aos tablets.

Pode-se ainda enfatizar o facto de não terem existido grandes dificuldades na construção de materiais pedagógicos, apesar da falta de formação em tecnologias, situação reivindicada constantemente pelos professores, e a grande dificuldade em optar pelo AVA que respondesse às necessidades e exigências inerentes ao projeto.

Um balanço refletido com os olhos no futuro

No âmbito do acompanhamento e avaliação do FAINA 1:1 foi possível apurar o entusiasmo com que os professores percecionaram o Projeto. Foi assumido como um Projeto com impacto e com futuro, mas com a necessidade de horários letivos coordenados que permitam aos professores trabalhar na construção de materiais e no desenvolvimento de novas estratégias pedagógicas.

Para os professores torna-se fundamental apostar em recursos e meios técnicos com qualidade e a necessidade de um acompanhamento que os muna das ferramentas necessárias para cumprir com os objetivos propostos.

O FAINA foi para os professores um verdadeiro desafio como ilustra um excerto do discurso de quem ajudou a dar-lhe forma

> "Este formato é, sem dúvida, mais exigente para o professor, mas permitiu adequar melhor a sua prática letiva às necessidades dos alunos. Facilitou a implementação de estratégias diversificadas, fomentando o trabalho colaborativo, em pequeno e grande grupo. Estimulou a criatividade, desafiando os alunos a explorar e a elaborar um plano de ação, por exemplo, ao nível da divulgação das suas pesquisas. Desta forma, os alunos foram construindo o seu conhecimento, realizando aprendizagens e adquirindo competências diversas." (Professor1)

Compreende-se ainda que não se registaram prejuízos no que respeita aos resultados de aprendizagem da turma que embarcou num novo modelo de ensino-aprendizagem, sendo reconhecido o benefício da possibilidade de experienciarem alternativas que se revelaram enriquecedoras para o percurso escolar de cada um, nomeadamente no que concerne à capacidade de adaptação às adversidades e à autonomia no que diz respeito a métodos de trabalho e de estudo.

Os docentes envolvidos defenderam que o modelo trabalhado pelo FAINA 1:1 deve ser cada vez mais utilizado, permitindo um ensino em atualização permanente sem se estar restringido a conteúdos publicados em manuais em papel, contribuindo também para um aumento da autonomia e constituindo um fator determinante para a flexibilidade curricular.

Recomendações

Tendo em consideração os dados do Projeto FAINA 1:1, com evidências que ficam dos três anos da sua implementação sustentados pela literatura da especialidade, coube à equipa de investigação deixar recomendações que possam contribuir para potenciar o sucesso do Projeto caso se verifique a sua implementação a um nível macro.

Recomendou-se, assim, apostar na motivação dos docentes através da divulgação e sensibilização das potencialidades da filosofia inerente ao FAINA 1:1; apostar na formação em tecnologias digitais para a sala de aula; prever um espaço semanal comum a cada turma para trabalho de projeto com tecnologias; definir um elemento responsável pela coordenação do Projeto podendo ser o diretor de turma; existirem tablets na sala de aula quer sejam da Escola ou em modo BYOD; existir uma rede wireless de banda larga, suficiente para o acesso múltiplo dos utilizadores; existir um agente para suporte tecnológico do Projeto; envolver os pais e encarregados de educação no Projeto e realizar sessões periódicas de disseminação de práticas.

Algumas conclusões…

Tendo em conta os dados obtidos, consideramos que o resultado do Projeto é bastante positivo, atendendo aos esforços mobilizados por professores e alunos, assim como dos encarregados de educação. Pautado por grandes dificuldades na definição de estratégias claras para a operacionalização dos objetivos definidos, os materiais que daqui resultaram refletem o esforço e o trabalhado de todos os agentes ativos neste processo.

O FAINA 1:1 exigiu de todos um trabalho permanente para uma integração e utilização adequada dos tablets em sala de aula com o objetivo primordial de inovar pedagogicamente recorrendo às tecnologias digitais.

O OneNote assumiu-se como o AVA privilegiado, enquanto espaço principal de comunicação educacional da turma, e, também, enquanto espaço que permitiu a criação de um repositório de recursos digitais para cada disciplina, dando assim forma à concretização do objetivo principal do FAINA 1:1. Este objetivo foi cumprido através do respeito pela individualidade de cada docente como profissional e atendendo às especificidades de cada disciplina. O OneNote tornou-se um AVA organizado, estruturado, diversificado nos conteúdos e nas formas, permitindo uma consulta fácil para quem a ele precisa de aceder. Encontram-se elementos de natureza formativa (eg. fichas de trabalho; exercícios individuais com possíveis resoluções também elas individuais ou em grupo) e elementos de natureza avaliativa, seja ela formativa ou sumativa.

O FAINA 1:1 recuperou discursos, por vezes perdidos, e aqui traduzidos em práticas que consideravam a necessidade de respeitar os ritmos de aprendizagem de cada um, os gostos, as motivações que acompanham os conhecimentos a adquirir e as competências a desenvolver. O FAINA 1:1 ficou marcado também pela adoção de métodos de ensino que romperam com o tradicional método expositivo obrigando cada professor a dotar-se de diferentes técnicas e recursos que lhe permitiram ser um mediador no processo de ensino-aprendizagem.

Um Projeto, cuja implementação se limitou a uma turma de um Agrupamento de Escolas, revelou a importância dos tablets como ferramentas promotoras de motivação e criatividade e a necessidades dos professores que com ou sem tablets devem (re)criar diariamente as suas práticas adequando as técnicas e estratégias aos seus alunos.

Findado um percurso longo de implementação ficam, com amostras de evidências de desempenho, elementos essenciais que poderão fundamentar o alargamento desta experiência a outras Escolas para que existam mais alunos a aprender a aprender com recurso a outros recursos que rompem com aquilo que há muitos anos se denomina de “tradicional”.

Sintetizando, recupera-se um excerto do discurso da equipa de investigação que acompanhou todas as fases de avaliação do impacto deste Projeto e que ilustra o caminho percorrido:

> “O FAINA 1:1 tem um princípio filosófico de inegável valor. A disponibilização dos materiais pedagógicos pelos docentes aos alunos deve ser da sua responsabilidade. A estratégia pode ser variável, desde o uso de capítulos autónomos de livros de editoras, até a construção do material/recurso educativo digital pelo docente. Mas tem de ser claro que os alunos devem ter acesso contínuo (no momento e no

futuro) a um recurso educativo completo, com conteúdo, atividades, desafios, feedback e avaliação". (Lagarto & Faria, 2017, p. 41).

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FORMATION OF THE HEART: MEMORY, LITURGY AND THE IDENTITY OF CATHOLIC STUDENT TEACHERS

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Abstract

Twenty years on from the merger of Scotland's Catholic teacher training college with the University of Glasgow, this paper examines the formation of Catholic teachers in Scotland in light of the Holy See's vision. It concludes that the academic formation and opportunities for dialogue allow such a vision to be fulfilled to a large degree. What remains is to present students with a compelling vision of Catholic educational philosophy and an experiential "formation of the heart". After examining the rich idea of the heart in biblical thought, it analyses empirical research among Catholic students and beginning teachers in Australia and Scotland and the potential of liturgical formation. Drawing on the biblical and liturgical concept of memorial, it explores liturgy's ability to form the memory of an individual and a community, putting this concept in dialogue with the theory of the 'reminiscence bump', a period of strong identity formation in young adults. It concludes by suggesting ways in which liturgy – in parish, at university, and on pilgrimage – can help to form the memory, the identity, and the heart of Catholic education students.

Keywords: Catholic higher education, Catholic education, Catholic schools, Community, Intercultural dialogue.

1. Introduction

In September 2019, we at the School of Education at the University of Glasgow celebrated twenty years of the merger between St Andrew's Teacher Training College and the University, with a social event mixing nostalgia and storytelling, photographs and camaraderie. There was much to celebrate and much to ponder, especially for a School which inherited a very specific mission: to be the sole provider of

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teachers qualified to teach religious education in the large state Catholic school sector in Scotland, including all teachers in the primary school sector.

The twenty-year anniversary has provided an opportunity to evaluate and appraise the merger, above all in terms of the Catholic mission and its impact upon the formation of prospective Catholic teachers, in light of the Second Vatican Council's teaching that, "to the greatest possible extent, they determine whether the Catholic school can bring its goals and undertakings to fruition" (*Gravissimum Educationis*, 1965, para 8). Such an appraisal can also initiate a dialogue with the many Catholic teacher training colleges which merged with secular and Catholic universities in the UK and Ireland in the same period, and similar institutions globally.

The vision of the newly-created Scottish Parliament and the wider educational polity in the late 1990s rested on a desire to bring all teacher training colleges into the fold of wider academia, and to locate education as an academic discipline within the Social Sciences. Several educational advantages have emerged from such a vision for the students at Glasgow. Students can study a wider range of subjects from across the university, partly as a result of the Donaldson reforms which encouraged programme architects to allow a wide scope in the first two years of study (Donaldson, 2010). Students have access to world-class library and research facilities in a Russell Group university and a vibrant international campus life. They now also have the opportunity to study an integrated Masters within their Initial Teacher Education programme, allowing them to take their place in what is now conceptualised in policy as a Masters-level profession (Donaldson, 2010).

Nonetheless, the loss of a tightly-knit, largely residential Catholic community as a setting for Catholic teacher formation, brings its obvious drawbacks. As noted by John Lydon (2009) and Gerald Grace (2010), the loss of the charism of the Notre Dame and Sacred Heart congregations may have weakened a sense of vocation and spiritual capital. Examples of practical implications of the merger may include a weakened institutional Catholic ethos, a lessening of community and consequently Catholic teacher identity, and less frequent opportunity for liturgical celebration. More contested is whether a distinctive vision of Catholic education is no longer the dominant paradigm in the now largely secular study programme. The Catholic vision asserts a holistic conception of the human person - including the spiritual dimension - and the eternal destiny of each pupil is honoured. The possibility of seeking the objective truth is promoted, and in which the wisdom and authority of past ages is studied while being subjected to critical scrutiny. Such a vision may be obscured within their programme of study by a dominant secular ideology employing a methodological marginalisation of spiritual perspectives, and wedded to an uncritical acceptance social constructivism. Catholic educational researchers Rymarz and Franchi sum up a scepticism of the dominant contemporary educational philosophy as follows:

> "the good teacher will teach students to use the skills of reflection and critical enquiry to develop an ethical and 'wisdom-driven' response to inherited knowledge. This way of acting is far removed from an unsophisticated attachment to 'constructivism' which often underpins self-proclaimed 'modern' educational practice." (2019, p. 3)

In light of the contemporary shape of Initial Teacher Education described above, it seems wise to study of the documents of the Holy See to help us to discern the place of Catholic teacher formation within the secular university, in order to recognising its positive aspects while directing the energies of Catholic teacher formators towards areas for growth.

2. The holy see and catholic teacher formation

Despite the wide body of documents from the Holy See expressing a vision of Catholic education, the scope of the material detailing Catholic teacher preparation is fairly restricted. Nonetheless several strands evolve progressively as the shape of education changes in the post-Conciliar era.

Professional standards

In *Gravissimum Educationis* and in the post-Conciliar documents of the Sacred Congregation for Catholic Education, it is assumed that Catholic education students and teachers work and study within a supportive Catholic environment. The documents envisage a strong presence and influence of professed religious in teaching and leadership roles, and a clear majority of pupils in Catholic schools to be Catholic. In this landscape, the emphasis is on professionalism and a high quality of academic and human formation. At the Council, *GE* exhorts that Catholic teachers, "should therefore be very carefully prepared so that both in secular and religious knowledge they are equipped with suitable qualifications and also with a pedagogical skill that is in keeping with the findings of the contemporary world." (1965, para 8).

The 1982 document *Lay Catholics in Schools* concurs:

> The first requirement, then, for a lay educator who wishes to live out his or her ecclesial vocation, is the acquisition of a solid professional formation. In the case of an educator, this includes competency in a wide range of cultural, psychological, and pedagogical areas. (CCE, 1982, para 27)

Similar examples recur in subsequent decades (see e.g. CCE, 1988, para 96; CCE, 2007, para 21 and 22; CCE, 2014, para 7).

The official Church's call for high professional and academic standards can permit a favourable view of the integration of Catholic teacher education into the mainstream of one of Scotland's ancient universities. The fact that formation occurs in a School of Education which is regularly listed among

the top Schools of Education in the UK (#1 Complete University Guide 2019 and 2020; #1 Times Good University Guide 2019), and with integrated opportunities for Masters level study, is a further cause for optimism. Indeed, it is regularly observed that having a majority of Catholic beginning teachers as graduates of Glasgow should enhance the health of Catholic schools in Scotland. Nonetheless, the issue of diminishing Catholic community among the student body and a replacement of a Catholic educational worldview in the secular university remains.

The contested nature of education

From the late 1980s onwards, the Vatican documents recognise the contested nature of education and the difficulties of Catholic teaching. In *The Religious Dimension of Education in a Catholic School*, the CCE notes that the science of education is becoming confused and fragmented, capable of causing bewilderment to the student teacher. The document cautions that, in such a situation, educators should help students to employ discernment, "to reflect, judge and choose" what is true and useful in educational thought (CCE 1988, para 62). Similarly, *Educating Together in Catholic Schools* speaks of the educational challenges in, "a constantly and rapidly changing world in which it is increasingly difficult to educate," (CCE, 2007, para 20), while Pope Benedict famously spoke of an 'educational emergency' occasioning serious difficulties in collaboration and the discovery of meaning in life (2008). Two strands emerge in the documents as responses to the increasingly challenging landscape: dialogue and faith witness.

Dialogue

In the 2013 document on *Intercultural Dialogue* and the 2017's *Educating to Fraternal Humanism*, the CCE affirms that the Catholic educational vision can be of service to society and wider educational thought, and presents an optimistic view of Catholic schools as sites of dialogue. An important principle emerges: dialogue begins with awareness of one's own faith identity, so that in dialogue we become clearer about our own beliefs because we have to examine them, explain them and sometimes defend them, while being enriched by the insights of others. (CCE, 2013, para 13-18). Once again this bodes well for Catholic students in a secular university and a diverse School of Education, where upwards of 50% of ITE students are not Catholic. This means that Catholic students' own beliefs may be challenged, honed and deepened in dialogue and sometimes disputation with their peers. Coll's (2007a and 2007b) research among Catholic education students in Scotland demonstrated that many of them chose to teach in the Catholic school somewhat unreflectively, due to their family culture and upbringing, at a time when almost 100% of their peers on the course were fellow Catholics. This was in contrast to the more intentional choice of students in New South Wales to teach in the Catholic sector, although the latter evinced much less commitment to the religious mission of the school (Coll 2007b). Now that the student cohort is much more diverse, it is likely that dialogue with non-Catholic peers

about Catholic schooling and its educational vision, as well as around Catholic teachings, may help to sharpen Catholic students' own beliefs and allow them to become more intentional in choosing to teach in the sector. Perhaps the challenge for Catholic faculty members is to help them to develop the vocabulary to express their deeply-held but sometimes inchoate beliefs in such dialogue.

Faith witness

The need for personal faith witness within a contested and secularised space also comes to the fore more clearly in the CCE documents from 1988's *The Religious Dimension of Education in a Catholic School* onwards. By this time, the trend noted in 1982's *Lay Catholics in Schools* has progressed, whereby the numbers of professed religious who are teaching and leading in Catholic schools has declined sharply. The effectiveness of lay Catholic teachers is tied to the personal witness of their human and supernatural gifts (CCE, 1988, para 96). To foster such gifts, lay Catholic teachers, "should have the opportunity of receiving the specific experiential knowledge of the mystery of Christ and of the Church that priests and Religious automatically acquire in the course of their formation" (CCE, 1998, para 97). *Educating in Catholic Schools* takes up the theme, quoting Pope Benedict's *Deus Caritas Est* and calling for "'a formation of the heart'", an encounter with God in Christ which allows Catholic teachers' vocational commitment to be derived from their faith, becoming active through love (CCE, 2007, para 25).

Reflecting on the official teaching of the Holy See around dialogue and faith witness, it is clear that academic courses have a crucial role to play in introducing Catholic ITE students to a vision of Catholic education, alongside sound and up-to-date pedagogies of religious education, and the theological language needed for mature faith and dialogue (see Franchi & Rymarz, 2017). In the School of Education at Glasgow, there is a growing portfolio of courses, both mandatory and elective, offered to Catholic students, including Theology in Education, Catholic Teacher Formation, Education in Practice (Catholic Religious Education), Applied Catholic Theology, and Contemporary Issues in Catholic Schools. These courses aim to equip ITE students with the knowledge, skills and pedagogy to teach religious education and to inculcate a Catholic vision of education, and they should be under constant review to ensure that they are achieving their aims.

What is more difficult to both quantify and effect is the formation of the heart, born of an encounter with God and the mystery of Christ, giving birth to experiential knowledge. Of course, such an endeavour goes beyond the campus, encompassing the student's own prayer life, family, peer witness, university chaplaincy, school practicum and parish involvement. Nonetheless, the School, through the St Andrew's Foundation for Catholic Teacher Education, embraces its formational role. If the School is to undertake 'formation of the heart', it is worth examining the meaning of heart in the biblical record.

3. Formation of the heart

The biblical notion of the heart lies deep within the spirituality of the Judeo-Christian tradition. In the Old Testament, the heart is the place of deliberation and decision, the organ of thought which represents the self. It is a place of dialogue and of memory, known to God who "looks at the heart" (1 Sam 16: 7). In Jeremiah, the heart is compared to a writing tablet where God will inscribe the commandments and establish a new covenant (Jer 31: 33), echoing the great *shema* prayer of Israel (Deut 6: 6), a passage which is worn on the forehead and upper arm by Orthodox Jews as a *tefillin*, as a reminder of God's deeds. Proverbs 3: 1-3 echoes the commandment theme and emphasises the heart as the place of memory, since "God's loyalty and faithfulness are to be kept in heart and mind at all times to the point of 'binding them around your neck'" (Plantinga-Pauw, 30).

The heart is not only individual, but also the heart of a people. In Ezekiel, Israel will be given a new heart and a new spirit (Ez 36:26), "empowering the people to live a new kind of life; a life of obedience to the precepts of God" (Maré, p.564). Israel will be led the by the Lord to the wilderness to speak to her heart, recalling her to the faithfulness of her youth (Hos 2: 14-15). So the heart is the place of vocation - individual and communal - of being called by God and responding in faithfulness. As the Catechism reminds us, the heart is the source of prayer, it is, "the place 'to which I withdraw'. The heart is our hidden centre…It is the place of encounter, because as image of God we live in relation: it is the place of covenant." (CCC, 2563).

In a recent leadership seminar, Raymond Friel (2021) exegetes the Road to Emmaus as formation of the heart, describing Jesus as, "the arsonist of the heart. The [disciples'] hearts, their spiritual centres, are on fire, no longer dimmed and slow." John Cassian's quote, enjoining a "daily and hourly turning up the ground of our heart with the gospel plough" leads Friel to note that, "Our hearts need to be 'turned over' by the Gospel, made open and receptive and vulnerable." Similarly, John Sullivan echoes the biblical notions of interiority, writes of Catholic teachers, "it is vital that they have internalised [the Tradition] and embraced it as far as they can" (p.16). How might the heart be set on fire, formed, and turned over by the Gospel? How might it be internalised and embraced?

Educating in Catholic Schools specifies its definition of formation of the heart, rooted in being "led to that encounter with God in Christ which awakens their love and opens their spirits to others" (CCE, 2007, para 25). In its section on *Dei Verbum,* the Bishops Conference of England and Wales' document *The Priority of Adult Formation*, suggests where the encounter can take place, so that the call is heard

and discerned: "In scripture, liturgy, life and prayer, the Church encounters God." (2000, p. 2). Renowned theorist Thomas Groome concurs:

> "I have learned the hard way that I do far better religious education when I am active in a vibrant Christian community, take time for good personal prayer and communal worship, see a wise spiritual companion regularly, engage in works of compassion and justice, have regular retreats, and take the kind of amusement time that prompts me to glimpse again God's presence and abiding love." (2007, p.362-3)

These core elements of the Christian life can guide a formational strategy, but they are not without their challenges for young Catholic students today.

4. Challenges to formation of the heart, and liturgical promise

If formation of the heart is understood as an experiential encounter with God, and the embrace of a faith-rooted educational vocation growing from scripture, liturgy, life and prayer, then the difficulties for Catholic student teachers comes sharply into focus. Having grown up in the secularised West and deeply formed by its values, Catholic students' own faith life and its liturgical expression is likely be lived to varying degrees, potentially lessening the sources of spiritual nourishment in Word, sacrament, liturgy and community life. This is likely to lead to an impoverishment of the spiritual capital which Grace (2002) individuates as crucial to the continuation of the Catholic educational mission.

In the US, traditionally considered more religious that Western Europe, Smith et al paint a mixed picture of faith and its practice among young Catholic Americans, as reflected in the subtitle *In, Out of and Gone from the Church* (2014). Their qualitative interviews of 41 self-declared young adult Catholics found 12 who fell into the 'active' faith category and none who they classified as devout. Nonetheless, the young people generally showed a lack of hostility towards the Catholic Church and to faith, and many were open to re-engagement or had already re-engaged (2014, pp. 89-125).

This realistic but optimistic tone is corroborated by research into young Catholic students and teachers in Australia and Scotland. Building on their conceptual 2017 study of formation of teachers for Catholic schools in light of a decline of a cultural religious paradigm, Franchi and Rymarz' recent empirical study of young Catholic teachers in Australia found that for the majority, religion is not the dominant factor in personal identity or decision making (2019, pp. 113-116). Almost all students in the study declared a personal faith, but participation in the liturgy was much more likely to occur at school than in the parish, and very few read or prayed with scripture out with school. Most of them expressed a view that it was not through sacramental participation that they expressed their faith, but rather by the way they live. Nonetheless, working in a Catholic school was viewed with enthusiasm, and had often occasioned a re-engagement with their faith and the formation of a supportive faith community,

something which they lacked among their peers outside of school. Students spoke positively of liturgy in a school setting, and although the authors show some scorn over the teachers' desire to 'get something' out of Mass, they were reported to have responded positively to, "school liturgies, which were more vibrant [than parish] with accomplished music, great participation, and more focussed preaching." (2019, p. 120).

These findings are similar to those of Coll, in a study comparing the religious lives of recently qualified Catholic teachers and student teachers in Australia (New South Wales) and Scotland (2007b). A majority in NSW did report attending Mass regularly (61%), but held a perception that a lack of active participation in liturgy and parish would not diminish they/their peers' ability to be a competent and committed Catholic teacher. Catholic teaching was conceptualised largely as passing on Catholic values. In the Scottish sample, by contrast, there was a much greater awareness of participation at Sunday Mass as a requirement for a Catholic teacher, even in cases where they were not currently practising regularly. They also moved beyond their NSW peers in conceptualising their role as to pass on Catholic teachings as well as values to the pupils. Many spoke of the re-engagement with their faith and practice which had occurred during their studies at the University of Glasgow, in part due to the well-received Catholic formation programme. In both jurisdictions, the enthusiasm surrounding teaching in the Catholic sector, and the presence of a supportive faith community and regular prayer was in evidence.

In Coll's (2009b) study of the influence of leadership in Catholic schools on beginning teachers' faith lives, liturgy appeared as the key factor in presenting and maintaining the school's ethos and as an expression of the priorities of the school's faith leadership. The interviewees frequently spoke of a variety of liturgical events and practices as being emblematic of the Catholic ethos and leadership: Mass for Lent, First Friday and Holydays of Obligation, discussion of the Sunday Gospel at Monday morning assembly, staff retreats, prayers before exams, Sacrament of Reconciliation, and the creation of a school oratory. These observations accord with Franchi and Rymarz's inclusion of, "The importance of ritual as a binding force" as one of the three crucial characteristics of Catholic education (2019, p. 14).

5. Towards a formation strategy

The vision represented by the formation of the heart, and the challenging but promising picture emerging from the US, Australia and Scotland, can allow us to trace the outlines of a formational strategy among Catholic student teachers. Such a strategy should embrace a personal experiential encounter with God, fostered by prayer, and lead to the formation of a supportive community. It should

help to form their personal and professional identity as Catholic teachers. It should lead to a vocational decision to respond to the call of God, allowing young Catholic teachers to be witnesses to their pupils.

The above findings on the spirituality of young teachers show their openness to quality liturgy as the soul of the Catholic ethos. The relevant Church documents and biblical insights also see encounter in a liturgical key: Friel situates formation within the events on the road to Emmaus, so clearly modelled by Luke on the Eucharist, while *Dei Verbum* and the Bishops of England and Wales locate the encounter with God in scripture, liturgy, life and prayer.

The liturgical focus may appear unfortunate, as strong liturgical community among the student body is one formational opportunity which was weakened in the merging of the Catholic teacher training colleges with secular universities. The struggle to fully engage with the sacramental life is apparent among students and their young Catholic peers in the Anglophone world. Liturgy does however retain its promise, not least as formation of the heart requires the creation of community, an encounter with God and the transformation of the memory and will which are functions of the heart in OT thought. Indeed, sacramental theology reveals to us that community, encounter and memory are the very work of liturgy.

6. Liturgy, memory and identity

The heart of the Eucharistic liturgy is memory. At the Last Supper, Jesus instituted the Eucharist with the exhortation to do this in memory of him. Immediately after the Consecration, the Eucharistic prayer reveals the intention of the whole Mass: to recall the death and Resurrection of Jesus - God's greatest gift and the centre of salvation history - and to offer it to God in thanksgiving.

This is memorial, the English translation of the Greek word *anamnesis*. Rooted in the corresponding Hebrew term *zikkaron,* it carries a specific biblical and liturgical meaning. In a section entitled 'The Church's most intensive moment is remembering', theologian Gerhard Lohfink explains the concept of *zikkaron* by reference to a speech given by Israeli president Ezer Weizmann at the German parliament in 1996 (1999, pp. 236-241). To the astonishment of the parliamentarians, Weizmann recounted the history of Israel and Judaism, from Abraham to the holocaust, as his own personal history, with the refrain "I was there". He was employing the logic of *zikkaron*, speaking as one who remembers. When the salvific deeds of God are recounted and recalled liturgically by the gathered people, those celebrating liturgically become contemporary with those who first witnessed it. The events and their salvific power also come alive in our midst, renewing the covenant. Lohfink notes that the Pentateuch itself follows this logic, when in Deuteronomy uses the word 'today' 70 times to refer to the past events

of the covenant at Sinai: God's renews the covenant today (1999, p. 239). Such remembering founds and sustains a people. By remembering, the people as a whole and each member of it are given a powerful vocation and a mission. Indeed the true newness of biblical Israel is that its foundation lies not in a mythical past in the realms of the gods, but in real events which introduce a dynamism into history, establishing linear rather than cyclical time.

The central OT liturgy is Passover, where the founding event of Israel's history - the liberation and exodus from Egypt - is recounted in word and gesture, in questioning and clothing, food and drink. It is a powerful annual renewal of the covenant. Christian worship is rooted in OT patterns of worship, not least as Jesus chose the Passover meal to establish the new covenant in his blood. In the Eucharist, the Paschal Mystery is recounted by the Church - the new Israel – rendering its "salvific density" present in the midst of the assembly by the power of the Holy Spirit (de Sousa Silva, p. 273). In Driscoll's striking phrase, we are "spliced into" the Paschal Mystery, inserted into this primordial and originating event (2003, pp. 163-4).

St John Paul II summarises the logic of memorial in *Ecclesia de Eucharistia*:

> When the Church celebrates the Eucharist, the memorial of her Lord's death and resurrection, this central event of salvation *becomes really present* and "the work of our redemption is carried out". This sacrifice is so decisive for the salvation of the human race that Jesus Christ offered it and returned to the Father only after he had left us a means of sharing it *as if we had been present there*. (2003, para 11)

Therefore, the Eucharistic liturgy is the experiential encounter *par excellence* with the living God and with the Risen Christ. We are reminded of our true identity as a people, and each of us recognises the self as a beloved child of a loving Father and – as Pope Francis' describes himself – a sinner on whom God has had mercy. We are also given a vocation, a task and a direction, projected dynamically towards the eschaton and the eternal covenant of God's fully realised Kingdom. As the Eucharistic Prayers often repeat, we also call on God to remember, and to enter once more into history to save his people (de Sousa Silva, 2015).

And so we are a people who remember liturgically and receive our true identity there, which may begin to explain why participation at the Eucharist has been a touchstone of Christian identity from the beginning, as attested in the scriptures and Church Fathers. Liturgy can and should be the very basis our individual and communal identity as disciples.

In the wake of his speech at the Bundestag, Weizmann predictably was met by much puzzlement and even barely-concealed scorn, although many remained impressed. Given the strangeness of memorial logic to the modern secular mind and the absence of regular worship among a majority of young people,

including many Catholic students and teachers, the question remains of how such a vision of a remembering community can become a formational reality.

7. Memory and identity formation among young adults

Social Science provides much research on adolescence and emerging identity, enhancing the disciplines of psychology, sociology and education. There is much less work on the development of religious identity and practice amongst and within young adults. King (2003) argues that religion and religious experiences can potentially offer a spiritually rich context for the formation of identity in young adults. Whilst a theology programme at university provides the academic knowledge base for faith formation and understanding required of a Catholic teacher, psychology can assist in providing a framework for understanding the process of development, the emerging self-identity and belonging to and within a community of Catholic students and educators. This paper is more nuanced though and stresses the importance of experiential knowledge of the mystery of their faith alongside the cognitive focus during lectures and seminars. Indeed, the opportunity to not only come to know about Christ but also, to come to know him is a feature of the pedagogy and teacher formation embedded in the initial teacher education programmes. For this reason, students are given opportunities to participate in and witness to sacramental and liturgical life of the faithful and as catechists pass on the mystery of Christ and his Church. This clearly points to some form of identification with and belonging to the life of the Church if we want to seriously equip our student teachers with a sense of their vocation.

Fostering of identity and belonging as Catholic teachers is a core component of the initial teacher education programmes at the University of Glasgow, yet this identity is not intended as a phenomenon of student life then to be forgotten in the mist of time post-graduation. Autobiographical memory research (Koppel & Bernsten, 2015; Khadeeja, Kuhn & Haque, 2018) informs that 'emerging adults' (Smith & Snell, 2009) often remember a substantial number of events experienced during adolescence compared to the life stages before and thereafter. Memories of adolescence and early adulthood are often particularly strong within an individual's autobiographical recall perhaps because significant events generally occur (such as first job, graduation, birth of child) whereby the integration of experiences and events help form a sense of self and a self-history. Important life events though are not unique to adolescence, yet early adulthood recalls a disproportionate number of memories in comparison to other life stages. The phenomenon is known as the reminiscence bump. If we link this to theories on human development, early adulthood is often associated with the development of personal identity.

Research informs that memories are accessible from the reminiscence bump because they are linked to self-identity and furthermore contribute to life goals and ambitions, attitudes and beliefs (Conway, Wang, Hanyu & Haque, 2005). Although the precise age range of the reminiscence bump is disputed, it is generally located in the emerging adult formative period of life shared by the vast majority of our students (Khadeeja, Kuhn & Haque, 2018). Insights from the reminiscence bump do remind us of the significant role Catholic initial teacher educators can play in the formative years of the lives of our students. What is more, as the action by which God's people remembers, powerful experiences of liturgy among Catholic student teachers can also play a central role in their significant identity-forming memories, being reflected in the 'remebering self' which is the core of identity (Kahneman and Riis, 2005; Kahneman, 2011, pp. 376-90).

8. Conclusion: towards a liturgical formation of the heart

While this paper has explored academic courses and inter-religious dialogue in the Catholic ITE experience, it has given most weight to formation of the heart, which has been conceptualised in a liturgical vein understood as the formation and nurturing of memory. We conclude with some practical considerations regarding the application of a liturgically-focussed formation.

Parish liturgy

The first consideration is that the School of Education is only one part of the overall formational experience, considered both chronologically and holistically. Catholic education students are part of Catholic families and the vast majority will have attended Catholic schools. They will also be part of Catholic schools in future, and may embrace the vocation of parenthood, marriage or the single life as their way to holiness. Within this flow, their time at university is a snapshot. Indeed, educational thought and policy increasingly underlines the importance of life-long professional learning. Even during their time as students their main liturgical belonging remains to their parishes. As we have seen, Catholic beginning teachers see Sunday Mass attendance as the clear expectation of them, one which they generally embrace as the ideal behoving a Catholic teacher. Many also frequent the university Catholic chaplaincy and find a supportive community of peers of their own age.

Parishes therefore should be heartened and challenged by the formational impact of powerful liturgy, above all on young people re-engaging with their faith, and those living through the 'reminiscence bump' period of life so crucial to identity formation. Fr James Mallon argues strongly for a greater focus of time and energy to be placed on Sunday Mass within parish priorities, giving many practical examples of how it can achieved (Mallon, 2015, pp. 95-148). Although public worship is severely curtailed in the current time of pandemic, with unknown longer-term consequences, the expansion of

livestreamed Mases can help to increase choice, raise expectations of quality liturgy, and encourage the spread of good practice which can bear fruit when public worship is possible again.

University liturgy

Although the School of Education is only one part of the formational picture, the insights of the 'reminiscence bump' and the 'remembering self' embolden us to play a substantial role in the formative years of our students' lives. We should encourage high-quality, meaningful liturgy: current examples at Glasgow include a welcome Mass for post-graduate (PGDE) education students featuring music by a group made up of education students themselves; a PGDE awards day Mass for students and their families in the graduation hall; and a retreat and Mass for graduating undergraduate students. There are also smaller events of a liturgical and social nature for feast days throughout the year such as All Saints Day and Ash Wednesday, and a weekly Mass for staff and students. The findings of this paper serve as an opportunity to revise and renew this schedule and its ability to truly impact the faith lives of future Catholic teachers.

Pilgrimage

To complement the campus- based liturgical life of the School, a programme of pilgrimages, both local and national, has developed as a central plank of our formational strategy. Pilgrimage is one of the features of Catholic Christian life that provides an opportunity for spiritual growth, community belonging and enhanced identity. Pilgrimage by its very nature involves a temporary leaving of our daily routines to spend time in prayer with others in a holy and significant place/site. Travel is involved and an encounter with others in community is offered, indeed it contains a unique ability to form *communitas*, a temporary liminoid experience of community among pilgrims leading to a sharing of stories and fellowship among equals, as first noted by pioneering sociologists of pilgrimage Edith and Victor Turner (1978). On participating in the planned pilgrimages our students experience time away from timetables and everyday life of university lectures and seminars to enter experiences that have the potential for being lodged in memory and recall, particularly if they have an emotional or life changing dimension. Notwithstanding, any event or story that has a strong emotional charge will be more memorable, for the greater the emotional charge the stronger the emotional memory (Lappin, 2011). Yet the pilgrimage, and indeed this paper, is not concerned with emotional memory per se as a reminder of past experiences, even though experientially based knowledge is an important aspect of personal integration. The nuanced and sharper focus is on memory and identity within an experience of pilgrimage.

Over the past five years, 126 students have travelled on the St Andrew's Foundation (SAF) pilgrimages, to the Holy Land, Lourdes, Rome and Salamanca/Avila, as well as 35 on Scottish day-pilgrimages.

Another 54 were due to travel on pilgrimage to Northern Italy or Spain in summer 2020 before the trips were postponed. Although the programme has been much curtailed in a time of Covid, in November 2020 the students undertook a 'virtual pilgrimage' to the Vatican: 110 students took part during one week, walking 3,975km individually around their local streets and updating their progress via social media.

The pilgrimage programme recognises the limits on our ability as a pastoral team to spend quality time with the students during term time due to their other commitments, and supplements this with intensive formational experiences.

De Sousa Silva points out that for God's people, the *zikkaron*/ liturgical memorial of the Lord's deeds took place in the setting of pilgrimage, at one of the three annual pilgrimages required of all males at the time of Jesus: Purim, Pentecost, and above all Passover (de Sousa Silva, p. 271). The SAF pilgrimages have featured powerful experiences of Eucharistic liturgy and para-liturgy: our 2019 study of our students who travelled to Rome and Lourdes discovered the deep impression made on them by such events as the Papal Audience and the Torchlight Procession, as well as intimate group Masses and times of prayer (Reilly, Crichton and Lappin, 2019). Our own experience as leaders of the student pilgrimage to the Holy Land leads to us believe that moments such as renewal of baptismal promises in the Jordan, Mass in the Church of the Holy Sepulchre, and prayer by the Sea of Galilee also contain such transformative power. In fact the entire pilgrimage can be seen as a specific form of liturgy with its sacred spaces, rituals, and narratives. As Scott notes of Holy Land pilgrimages, "Sacramental pilgrimage invokes a liturgical memory to participate in the Eucharist at the place where the body dwelt: the resurrected body of Christ…crucified at Jerusalem." (2003, p.164). Following the logic of memorial, we believe that the salvific events of the Paschal Mystery, and the Risen Lord himself, become present in power during the experience of pilgrimage, its daily Mass and its many times of prayer and para-liturgy, to a degree capable of forming the memory and identity of young pilgrims to a significant degree.

Conclusion

This paper has evaluated the current Catholic teacher education provision at the University of Glasgow in light of the teaching of the Holy See. While positive about the opportunities presented by the university setting to accord with the Holy See's vision, it recommends ongoing evaluation of the Catholic teacher formation courses to ensure that they are presenting a vibrant vision of Catholic education.

The paper has, further, explored the biblical and theological roots of a formation of the heart, conceived in a largely liturgically-focussed key. As such it provides a theory of formational which will allow comparative study and dialogue and with the formation programmes and strategies of our peer institutions. It can also serve as an theoretical basis for empirical research to ascertain the impact of academic courses, liturgy and pilgrimage on the faith and professional formation of Catholic ITE students both at the University of Glasgow and at other Catholic ITE institutions.

We hope that such further study, dialogue and sharing can help to foster a formation of hearts ready to embrace the challenging and privileged vocation of Catholic teaching.

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INTERDISCIPLINARY EDUCATION: MEMORIALISING LEARNING EXPERIENCES

Julie Harvie

Abstract

Over the past few decades, global institutions such as the Organisation for Economic Cooperation and Development (OECD) have helped homogenize educational policy and similarities can now be seen in curricula across the globe (Priestley, 2002: Sahlberg, 2007). One feature of many new curricular models is the emphasis placed on giving students transferable, generic skills through a focus on studying 'cross cutting themes' which blur disciplinary boundaries e.g. France (Baillat & Niclot, 2010), Spain (Segovia *et al*., 2010), Canada (Hasni *et al*., 2015) and Australia (Long *et al*., 2010). It could be said that in preparing students for life in the post-industrial information age, the "what" that students require to know has now changed (Virtue *et al*., 2019). Interdisciplinary learning (IDL) is promoted as something which allows educators to facilitate this change and develop skills building and conceptual creativity in their pupils, factors which are crucial for the twenty-first century education system (Khadri, 2014; Kolmos, 2016).

Critics of an integrated approach to learning argue that this can be detrimental to students because it dilutes and weakens the powerful knowledge contained within the disciplines (Young and Muller, 2010, Young *et.al*, 2014). The assumption, here, is that the acquisition of this 'powerful knowledge' is dependent on it being delivered through discrete, specialised subjects. However, others argue that the opposite it true and that by making learning experiential and allowing students to explore relevant problems and questions, knowledge is actually enhanced, memorials of events are created through the experiences and students are prepared more holistically for life beyond the school gates (Dewey: 1938, Guissani, 1995: Beane, 1997). This paper considers the purpose of schools, the nature of IDL in relation to knowledge and explores its usefulness as a tool to help educators to offer students "a response to a question one lives" (Guissani, 1995). It argues that rather than memorising facts for the purpose of passing exams for example, interdisciplinary approaches enable pupils to unitise digital technologies and memorialise learning which they can then use and apply in real life contexts.

Keywords – interdisciplinary, problem-based, knowledge, skills

Introduction

Global policies, such as *Teaching for Global Competence in a Rapidly Changing World* (OECD, 2018), emphasise the need for young people to acquire key skills which cannot be taught discretely, but instead blur disciplinary boundaries, integrate knowledge, and require application within real life contexts (Rychen and Salganik, 2003). Sinnema and Aitken (2013), suggest that, across different countries, the terms competencies, capabilities, capacities, interdisciplinarity and cross curricular all have similar meanings. So, while capacities and interdisciplinarity feature strongly in Scotland's Curriculum for Excellence, the Australian curriculum refers to 'capabilities', New Zealand's national curriculum details five key 'competencies' and Northern Ireland's curriculum outlines 'cross curricular skills'.

This paper will consider the educational context for the development of interdisciplinarity within curricula across the globe. The nature of skills and knowledge will then be explored and the relationship between disciplines and knowledge. Interdisciplinary Learning (IDL) will then be presented as a problem-based approach which can help to develop pupils holistically and prepare them for the world beyond the school gates.

A pragmatic constructivist epistemology has been adopted in this paper as this can take account of the many and varied activities and forms of knowledge that IDL can involve (Boix-Mansilla, 2017). This epistemology recognises knowledge as the product of experience and action and is underpinned by the premise that 'we only know the world as a result of our actions' (Biesta and Burbules, 2003:55).

Skills Development

Over the past few decades, neoliberalism has become the dominant ideology, not only within the economies of countries worldwide, but also in other spheres of public life, including education (Erss, 2015). Apple (2001) argues that the aim of neoliberal education policy is to create a stronger link between the economy and education so that gaps in the skills market can be filled by young people entering the world of work. As a result of this focus on skills, education has seen major changes since the 1980s, with a shift from teacher centred approaches to learner centred ones instead, that is from input to output. Erss (2015) observes that due to the rapidly changing global environment of economy and employment, and the swift advance of technology, which enables factual knowledge (as well as mis-information) to be accessed at the touch of a button, education now places less importance than formerly on the acquisition of knowledge, focussing instead on skills, and this is on a global scale.

Workers need to have strong literacy, numeracy and problem-solving skills, skills in the use of technologies, social and emotional skills and the capacity and motivation to learn. When workers have the mix of skills that is well aligned with the needs of the most technologically advanced industries and

when qualifications reliably reflect what workers can do, countries can develop a comparative advantage by specialising in these industries (OECD, 2017:5).

The development of interdisciplinarity within educational policy can be seen to be directly linked to this growing trend, because it has been closely associated with the development of transferable skills.

Skills V Knowledge

Critics of interdisciplinarity, argue that taking a skills-based approach to learning leads to a concentration on activity-based tasks which serve to undermine deep and meaningful disciplinary knowledge (Paterson, 2009). For example, social realists view schools as places where pupils gain access to powerful knowledge. They differentiate between what they see as every day, ordinary, knowledge and specialised, disciplinary knowledge. Within social realist literature it is recognised that children come to school already having understandings and experiences, but the role of schools is seen as that of providing young people with esoteric knowledge that they would not ordinarily have access to at home (Young and Muller, 2010).

Social realists view the acquisition of powerful, specialised knowledge, as a way of giving young people a chance to become upwardly mobile in social terms. The blurring of disciplinary boundaries is viewed as being a danger in the sense that it may lead to students experiencing a lack of exposure to powerful, intrinsic knowledge contained within the traditional disciplines and hold that this is potentially harmful to young people whose life chances could be adversely affected as a result. The assumption here is that the acquisition of this 'powerful knowledge' is dependent on it being delivered through discrete, specialised subjects with the emphasis on accumulation and memorisation of knowledge facts. Here it will be useful to consider the nature of disciplines and the relationship between disciplines and knowledge.

Disciplines

Gardner (2006) observes that being open to knowledge is one thing, but he highlights that making sense of it and giving it an order is quite another. He points to The Bible and the Ten Commandments, in particular, as an example of early attempts to present a synthesized knowledge about how to live. Later, philosophers such as Socrates, Plato and Aristotle began to delineate knowledge, not only about how to live, but also about the world as they understood it at the time. Organising or disciplining forms of knowledge into separate categories has become the foundational structure of our education system and the traditional disciplines we know today. A discipline can be said to be a way of organising knowledge into a set of objects or subjects using theories, concepts, methods and procedures. Disciplines change and are shaped over time by external influences and intellectual development and come to produce a

particular view of the world which exerts a certain amount of authority and influence. Klein (2009) points out that although the modern system of disciplinarity is little more than a century old, the etymology of the term 'discipline' is ancient with the Latin root of 'disciplina' pertaining to the instruction of disciples in an educational setting. It was not, however, until the late nineteenth and early twentieth centuries that disciplines were delineated and separated into individual academic divisions. As new fields of study are developed however, the lines between the traditional disciplines are often blurred and subjects can become hybrids e.g. biochemistry and geophysics.

Defining a discipline is complicated by the fact that some disciplines are more formal and more structured than others. For example, distinctions have been made between sciences which are highly subject specific and mathematical, such as physics and chemistry, and those which are less formal such as the social sciences. Whitley, (1978) for example, refers to the former as restricted sciences and the latter as configurational sciences. Toulmin (1972) goes a step further and differentiates between what he calls 'compact disciplines' like physics and biology, 'would be disciplines' like the behavioural sciences and 'non-disciplinary activities' such as ethics and philosophy. Lenoir (1997), suggests that disciplines can be categorised into those which are concerned with the construction of reality, those concerned with the expression of that reality and those which ensure we have a relationship that reality.

Klein (1990) makes the point that some disciplines are more receptive to changes and subject to growth than others. Some have a greater propensity to borrow from other disciplines, for example, since its inception psychology has been known to borrow from maths, physics and physiology. In so far then as a discipline has evolved and developed over time, it could be argued that there is no such thing as a 'pure' discipline.

Unity of Knowledge

Interdisciplinary perspectives require a view which holds that all knowledge is somehow whole or can be unified within certain broad fields of experience (Pring, 1972). Newman's (1873) 'circle of knowledge' provides an example of such a view where each discipline is seen to occupy a particular part of the circle and can only answer questions relevant to its own particular field. To gain a holistic education, Newman argued that one had to be familiar with the whole circle and that to acquire a true understanding of reality, engagement with a variety of disciplines is necessary. Those in favour of interdisciplinary learning argue that by providing students with opportunities to explore relevant, real life problems and questions, they are able to apply their disciplinary knowledge and skills and this experiential learning serves to consolidate and further their understanding in a way that merely memorising facts and figures cannot do (Beane, 1997: Boix-Mansilla, 2017: Harvie, 2020).

Teachers as curriculum makers

Deng (2017:16) argues that "teachers are fundamentally curriculum makers – not curriculum deliverers or implementers as conceived in the academic standards and accountability movement". Shulman (2013) suggests that teachers are professionals rather than mere technicians insofar as they can rationalise, justify and explain what they are doing and why. "The teacher is not only a master of procedure but also of content and rationale, and capable of explaining why something is done" (Shulman, 2013:10). So, it could be argued that for teachers to make informed decisions around IDL, the curriculum they deliver and the pedagogical approaches they use in the classroom, they need to engage with questions around the purpose of schools, the role of the teacher, the nature of knowledge and disciplines. Doyle (1992), asserts that effective teachers must be curriculum theorists and that curriculum making requires interpretation, judgment and responsibility.

Priestley and colleagues (2021) advocate that teachers need to engage with the purposes of education as a starting point for curriculum making. Deng and Luke (2008) point to four broad ideologies or orientations around the purpose of education:

- Academic rationalism – traditional/liberal forms of knowledge/content-led education
- Social efficiency – preparation of future citizens and learners – technical-rational
- Anthropology – focused on human development, child centred
- Social reconstructionism - challenging inequality, social justice, redistribution.

It could be argued that these orientations are not mutually exclusive and that aspects of more than one may exist within individual schools. However, the 115ndependen ideological focus will undoubtedly shape the kind of curriculum and educational experience pupils have. In developing a vision and common purpose therefore, it would seem logical for school leaders to spend time engaging staff with questions around what they see to be the main purpose of education.

Problem-based learning

Beane (1997) draws on the work of Dewey (1938) to argue that education is something which should be experiential, relevant and 115ndepend based so that knowledge is embedded and memorialised through the student experience. Giussani (1995) concurred with this view arguing that the purpose of education is to fashion pupils into well rounded human beings who are 115ndependente and able to face the world around them on their own. As a Catholic educator, however, Giussani believed that when educating holistically, the spiritual dimension of students should also be taken account of and that teachers should help pupils develop a personal relationship with Christ on their educational journey by encouraging them to engage with real life problems, questions and issues while being guided by the traditions of the Catholic Church. Franchi states that "The Catholic School is called to be na educational

community which forms the human person in integral unity…" (Franchi, 2016:135) and Catholic teachers have the mission to "..promote human flourishing, through a call to centre everything on God" (Rymarz and Franchi, 2019:15).

Giusanni (1995) proposes that this mission of the Catholic teacher can be realised through adopting a problem-based approach to education. He suggests that although the word 'problem' may have developed negative connotations, its etymology is rooted in the Greek word 'krino' meaning 'to sift through' or 'to sort out' and these are in fact positive and constructive actions. Therefore, by engaging in relevant and purposeful problems, young people can be guided towards autonomy and begin to acquire a deeper understanding of God and their place in the world. Pupil autonomy is described as 'a risk' for the teacher because the freedom of the pupil must ultimately be respected and this poses a risk "…for the teacher's intelligence, and heart and even for his pride" (Giusanni, 1995:81). While it is possible to address real life problems and issues while adopting a disciplinary approach, some problems or issues are too broad or complex to be addressed by one discipline alone. These require insights from more than one discipline and therefore necessitate an interdisciplinary perspective.

Implementing a problem-based interdisciplinary approach means practitioners need to be able to adopt facilitative roles, to manage student work without overly directing it, and to support students' efforts to become self-directed learners (Ertmer and Simons, 2006). One of the biggest challenges that teachers face as they begin using these methods is that of assuming a less directive role (Ward and Lee, 2002). In general, the teacher in a problem-based IDL approach acts as a guide who helps students collaborate to generate solutions to problems (Kolodner *et al.*, 2003). The emphasis shifts from a focus on grades, competition, and public comparison with others to that of enquiry and understanding (Gallagher, 1997). The teacher becomes a facilitator of learning rather than simply a transmitter of knowledge.

Interdisciplinary approaches require different forms of knowledge to be recognised and valued (Harvie, 2020). These forms of knowledge can be categorised into three main areas:

- propositional knowledge – relating to theory, knowing 'what'.
- procedural knowledge - being able to apply what is known, knowing 'how'.
- epistemic knowledge – relating to the conventions and nuances of the different disciplines and how they work.

Viewing knowledge in this way provides a strong counter 116roblema116 to critics of skills-based curricula who often protest that by focusing on the development of skills, knowledge is sacrificed (Paterson, 2009). Here skills are seen as a 116roblem procedural knowledge and are a vital 116roblema116e of the learning process. This is aligned to the view that Dewey held because he did

not believe there to be a stark divide between the theoretical and practical. Instead, he saw the theoretical as na offshoot of the practical and propositions being true only in so far as they were helpful or relevant in addressing problems (Pring, 1972). A 117roblema IDL will now be considered which promotes the idea of a 117roblema-based, experiential approach to learning and knowledge development.

Academic definitions of IDL

IDL involves a fusion of knowledge to a level which would not be possible through working within disciplinary boundaries alone (Boix-Mansilla, 2017). Repko (2008) draws on a number of definitions of interdisciplinary studies and defines it in the following way:

> Interdisciplinary studies is a process of answering a question, solving a problem or addressing a topic that is too broad or complex to be dealt with adequately by a single discipline and draws on disciplinary perspectives and integrates their insights to produce a more comprehensive understanding or cognitive advancement. (Repko, 2008:12)

This definition includes an important theme which is central to IDL in the academic literature, namely that of students being involved in solving problems or finding solutions to questions which are relevant to them. Philosophers such as Augustine (2009) have long seen problems as a source of knowledge creation and influential educational theorists such as Giussani (1995) and Beane (1997) argue that grappling with purposeful problems is a way to give students a holistic education. Problem solving is an important aspect in impelling students to find their own answers, draw their own conclusions, and create their own solutions (Brand and Triplett, 2012).

In terms of developing interdisciplinary competencies and disciplinary knowledge, some research studies have shown that there is a benefit when students are given a purposeful challenge to design or create a product or artefact of some kind using more than one disciplinary insight, (Fortuin & Bush, 2010: Solomon & Salfi, 2011). This can be referred to as a project-based approach to IDL in the literature. However, when comparing project-based to problem-based learning, where a relevant problem is the driving force and problem-solving strategies are developed alongside disciplinary knowledge, Brassler and Dettmers (2017) found that problem-based approaches were much more effective. Their research findings conclude that a problem-based methodology enables students to establish their own interdisciplinary purpose, gain disciplinary insights and develop their ability to synthesize and reflect on learning.

Virtue *et al.* (2019) argue that interdisciplinary lessons are more effective when they are problem based and Klaassen (2019) agrees that 'the problem' should be central to the learning outcomes when designing interdisciplinary activities. Such perspectives on curriculum development can be seen to have

their roots in the foundational work of Dewey whose premise for cognitive development was that throughout history, knowledge has been generated by addressing problems (Pring, 1971). Commentators such as Thorburn (2017:242) draw on Dewey's "learner led ideals", experiential learning and problem-solving principles to argue that Dewey has much to offer in terms of designing an interdisciplinary approach.

Establishing a purpose and making tasks relevant is another important aspect of interdisciplinary work. (Beane, 1997: Boix-Mansilla, 2010: Hedge & McKenzie, 2016). Pring (1971) warns though that merely focusing on practical methods which may be motivating and engaging for pupils, does not necessarily lead to an integration of knowledge and can result in an instrumentalist view of education. However, it could be argued that if the problems and challenges posed are intellectually stimulating enough as well as being relevant, this is what acts as a catalyst for breaking down disciplinary barriers in the mind of the students and helps to unify their knowledge. Unification of knowledge is something in fact that Pring (1971) characterises as core in his 'strong thesis' for IDL.

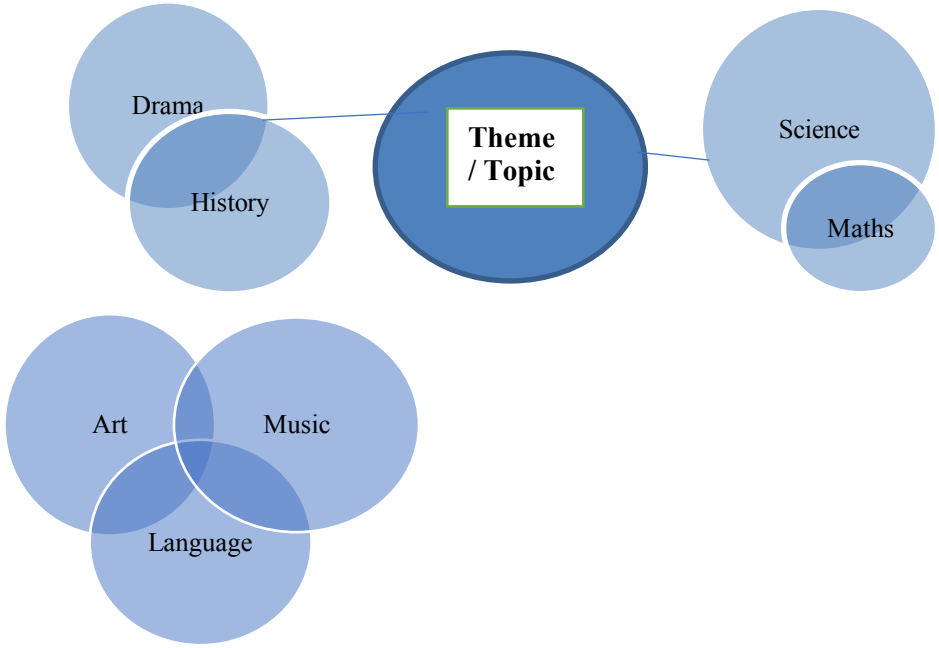
Holbrook (2013) suggests that it is important to acknowledge that certain disciplines (with their own internal logics, unique vocabularies, discourses and structures) may be hard to integrate. He asserts, however that 'communication' between disciplines is possible when there is a deep understanding of each disciplinary area. Another key component of IDL then is that it needs to be informed by strong disciplinary insights (Boix-Mansilla, 2004). Students must have a grounding in disciplinary knowledge before they can engage in an interdisciplinary task. Beldaro *et al*., (2017) found that combining certain disciplines (art and science, in particular), enhanced the meaningfulness of tasks for students. Gardner (2006) cites this need for strong disciplinary foundations to argue interdisciplinary activities are not suited to very young children because they do not have sufficient disciplinary knowledge to draw on.

'Cognitive advancement' is another area central to IDL. Students need to be sufficiently challenged so that they further their knowledge and understanding beyond that which would be possible by studying discrete disciplines. This enables them to develop transferrable skills and enables them apply their skills and knowledge to familiar and unfamiliar contexts. This type of learning moves away from the traditional notions of students simply acquiring academic information towards the student being able to apply their knowledge and skills to practical contexts (Humes, 2013). IDL leads to a development in the ability of students to reason in different ways, make judgements, assess and evaluate (Hedge and MacKenzie, 2016).

Interdisciplinary Learning

The interdisciplinary approach then is one which propels students to draw on their existing disciplinary knowledge and skills (from two or more disciplines), in order to complete a sufficiently challenging activity or problem which they have been set or have set for themselves. So, while cross-curricular and multi-disciplinary tasks may blur disciplinary boundaries, IDL goes further and fosters synthesis, resulting in cognitive advancement in the respective disciplines (Repko, 2008). As can be seen from Figure 1 below, during interdisciplinary activities, the disciplines are integrated during the process of undertaking the tasks which may or may not be related to a central theme as this figure shows.

Figure 1: Interdisciplinary Learning



To summarise from the above then, the key elements which emerge from the academic definitions of IDL are that –

- The starting point is a problem or challenge which is too broad to be dealt with by one discipline alone and challenging enough to promote cognitive advancement.
- The IDL activity should be purposeful, meaningful and relevant to the students.
- There should be a grounding in two or more disciplines in order to draw on them to address the interdisciplinary task.
- During the interdisciplinary process knowledge from the different disciplines is applied and integrated in the mind of the learners.

These points align with what Boix-Manislla (2004) terms as the core premises of IDL. The diagram below offers a framework to illustrate the nature of the relationship between the elements outlined above and the experiences students gain in the process.

Figure 2: Relationship Between Core Elements of IDL

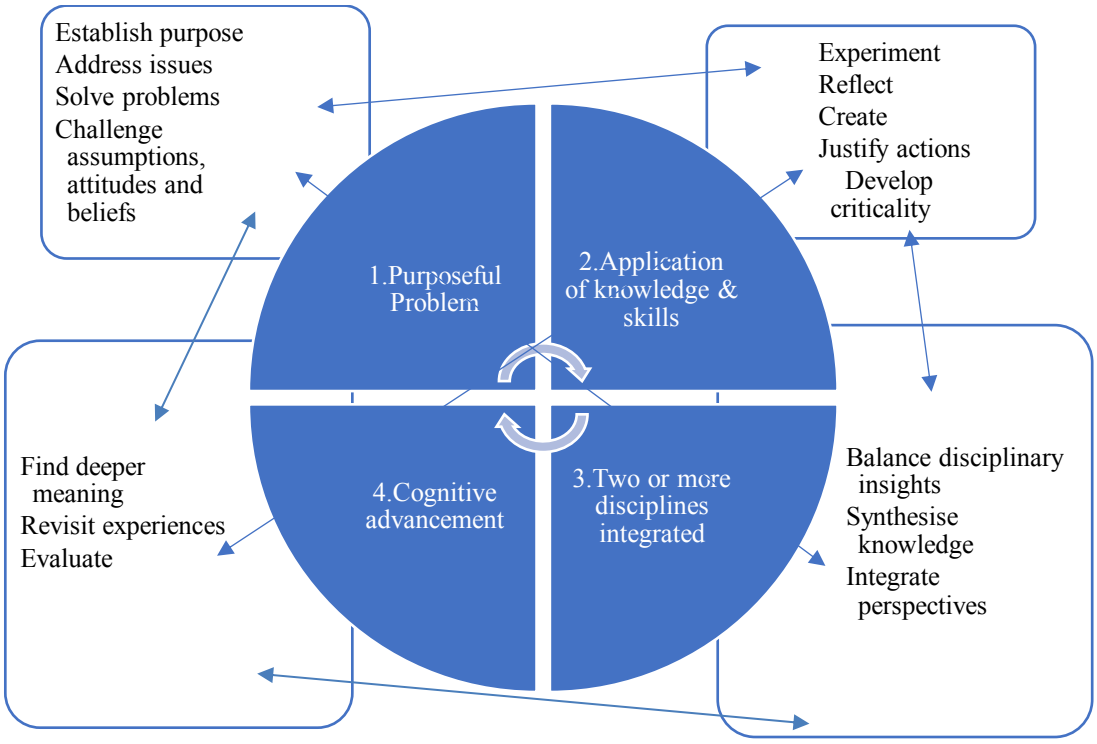


Figure 2 demonstrates that an interdisciplinary approach begins with a problem, question or issue which is meaningful to the learner. This has to be sufficiently challenging and purposeful to impel the student to apply and integrate their knowledge and skills from two or more disciplinary areas in order to solve or answer it. During the activity pupils engage in a process of reflective equilibrium, defined by Virvidakis (2015:77) as "….a state of coherence of our thoughts about one or more issues, resulting from a deliberative process of mutual adjustment of beliefs, principles, theories, and arguments". This involves students developing criticality, reflecting, justifying their actions, integrating perspectives, revisiting their experiences and evaluating their findings throughout the process as the diagram shows. The arrows indicate that this is not a linear process but is more rhizomatic in nature.

Benefits of an ID approach

In answer to those who argue that IDL weakens a student's ability to absorb knowledge, supporters of IDL, such as Beane (1997), propose that far from weakening a student's ability to absorb subject knowledge, knowledge is called forth during the contexts of the IDL task. This may be compared to a real-life situation such as fixing a car engine for example. When a mechanic goes to fix a broken-down

engine he or she does not stop to think about whether what they are doing requires mathematical, chemical or disciplinary knowledge from the field of physics, they simply draw upon their existing knowledge and skills to solve the problem facing them. If, therefore, an IDL task is relevant and engaging enough for a child it should mean that disciplinary boundaries are blurred and the application of knowledge and skills means connections are made naturally and instinctively.

Many within the educational spectrum claim that an interdisciplinary approach is beneficial to students. Duran, Duran and Worch (2009) draw upon the work of cognitive psychologists to claim that during IDL work, learning is enhanced through the establishment of connections in the brain. They say that establishing complex learning experiences makes for more effective learning as neurons have to perform multiple operations at once (Cohen, 1995).

Jones (2009) suggests that interdisciplinary techniques go beyond multi-disciplinary or cross curricular approaches (these terms will be explored later) by allowing students to see different perspectives, work in groups and make synthesizing of disciplines the ultimate goal. Interdisciplinarity has been linked with promoting higher order, critical and holistic thinking skills. This holistic thinking is the ability to understand how ideas and information from relevant disciplines, relate to each other and to a particular problem. Duerr (2008) argues that students through interdisciplinary integration are able to apply their knowledge and understanding to real world scenarios. Staples (2005) claims that integration of interdisciplinary studies offers students advanced thinking skills and enhanced ability to solve real life problems. Many argue that this is a powerful and engaging strategy that leads to sustained and transferable learning (Hiebert *et al.,* 1996; Jones *et al*., 1996).

Research carried out by Hmelo-Silver *et al.* (2009) showed that students who participated in a problem based interdisciplinary approach were able to construct a deeper understanding of the concept of transfer than students who did not. In their study, students involved in this type of work were also able to apply their understandings of the concept to generate recommendations for improvements of instructional methods. Their small-scale quasi-experimental study was conducted in the further education sector so its transferability to a school setting may not be direct. However this evidence provides credence to the results of Derry *et al*. (2006) whose findings demonstrated similar results. Both reports give weight to the claims made that interdisciplinary learning can promote deeper thinking and aid the making of links between disciplines.

Authors such as Youngblood (2007) and Duerr (2008) support the view that interdisciplinarity is a tool and hold that the key to interdisciplinary success is methodology. It is not enough to merely transmit disciplinary knowledge using text books or other means to students but instead students must be

stimulated, challenged and encouraged to apply this knowledge in creative ways. This suggests that pedagogy is important in ensuring the success of IDL. Youngblood and Duerr both claim that interdisciplinary techniques will go further than helping students synthesize and integrate knowledge but will also enrich a student's lifelong learning habits, academic skills and personal growth.

Adler and Flihan (1997) claim that many teachers involved in IDL work also claim benefits such as an increased enthusiasm for teaching and a renewed interest in their profession. Teachers also find students being more engaged in their learning and have increased opportunities for collegiate working which are beneficial. Adler and Flihan acknowledge, however, that the benefits of IDL are not firmly grounded in theory and research as many of the practical accounts are mainly anecdotal and so cannot clearly inform future practice. They say that interested researchers in this area are in an opportune position to expand upon our knowledge of IDL in a number of areas.

Conclusion

To conclude, this paper has considered the global policy context for the current trend in development of interdisciplinary approaches within curricula worldwide. Interdisciplinarity has been linked to skills-based learning and it has been argued in this paper that skills are a form of procedural knowledge which is concerned with the application of knowledge which has been acquired. It has also been argued that teachers as curriculum makers need to engage with questions around the purposes of education and their role as teachers when developing the curriculum for the young people in their care. Giussani (1995:10) states that "an education must be critical. The student must be exposed to the past though life experience…" A problem-based model of IDL has been presented as an approach to give students real life, experiential learning opportunities and a way to memorialise their learning experiences rather than just memorising facts and figures. IDL can therefore be seen as a tool for teachers to use to prepare well rounded, critical thinking adults who are able to flourish and contribute positively to the society in which they live.

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THE POTENTIAL OF AN "APP" THAT FACILITATES SMARTPHONE EXPLORATION IN THE CLASSROOM

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António Andrade[**]

Abstract

Today we are living difficult times due to the pandemic situation we are facing, schools reinvent themselves daily and "finally" reach to technology to get to the student, whether through a simple but sometimes complex videoconference or a myriad of other applications that always depend on the knowledge and skills of each teacher in the technical field and in the pedagogical acuity of adapting the resource to the training purpose. Simulators, games and robots, among other resources, which will culminate in the integration of Artificial Intelligence in education, are at an advanced stage of incorporation of technology, but there are intermediate phases with potential that are important to disseminate so as to be explored.

Often considered a distractor, the smartphone does, however, play an important role in learning. Always available with internet access, it allows information search, collaborative work, image, video, sound, games, virtual and/or augmented reality, among other potentialities. It can better motivate and involve students in their learning process and in the development of transversal skills such as creativity, communication, cooperation and critical thinking.

Despite the numerous apps available, it is difficult to identify those that are appropriate for teaching and learning, in any particular topic in each subject. Thus, in November 2019, we provided our teachers with a repertoire of apps, through an application developed by us that allowed them to discover, install, try and use them, in the context of the classroom. At the same time, they can evaluate them and share with the community examples of good practices in their use. This study seeks to identify the effective use given to this app in its different features by the teaching community.

The satisfaction recognised by the teaching community regarding this resource brings together the relevant factors that allow the dynamic evolution of this project.

Keywords: Smartphone, education, educational innovation.

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Introduction

In the last decade, there has been an exponential growth in the use of mobile devices, in particular smartphones, for purposes that are not only functional, but also academic, informative, social and for entertainment (Godwin-Jones, 2017). This generation of students needs to access information, interact and learn from anywhere, at anytime and with anyone, which brings teachers new technological and pedagogical challenges. The literature suggests that priority should be given to the design of learning and experimentation spaces that, using technologies, allow students to be free to create, question and learn from each other (Landin, Lucas, & Monteiro, 2013). Some studies have concluded that the introduction of mobile technologies such as tablets or smartphones with touch screens increases students' motivation and improves learning outcomes (El-Sofany, El-Seoud, Alwadani, & Alwadani, 2014). The implementation of mobile technologies in the construction of learning scenarios has been progressively increasing due to the advantages they offer (Rojas, Valderrama, Lancheros-Cuesta, & Ardila, 2020) (Eduardo & Ardila, 2013). The presentation of digital content adapted to different subjects, with high resolution and color tactile interfaces, allowing the integration of multimedia resources such as videos, music presentations, among others, are characteristics currently found in mobile applications (Ocsa, Suero, Herrera, & Villalba, 2014).

The use of technology in the classroom is very important as it provides students with opportunities to learn how to work in the age of information technologies (KORAL GÜMÜŞOĞLU, 2017) (Poláková & Klímová, 2019). So teachers need to develop skills that allow them not only to identify good educational resources but also share with the community those that better suit their pedagogical objectives, the group of learners and the type of teaching. It's essential that the chosen technology is appropriate to the contents of the subject, the target audience and the skills to be worked on (Gonçalves, 2018). Its introduction doesn't just change the role of students and teachers: the speed, the closeness and the multiplicity of communication channels and social media redesign the contexts in which the learning process occurs (Castro, 2014). The author highlights the role of the Internet as an important catalyst for creativity, collaboration and innovation, creating opportunities that would have been impossible to imagine two decades ago.

Methodology

Throughout these two years of research, always adopting grounded and appropriate methodological approaches at each stage, it was sought to design, develop and streamline an app that, being an app identifier repertoire, allows teachers to easily find the one that best suits the contents under study, use it in the classroom, evaluate it through an instrument developed by us and share examples of good practices.

The purpose of this investigation is to analyse the perceptions that teachers at Almeida Garrett Secondary School had when using the smartphone in the classroom and to identify the apps they used.

Thus, to achieve our goal, a brief description of the EDUAPP mobile application will be made. Data collection for this investigation was obtained through the EDUAPP database, through which a quantitative analysis was carried out, namely (i) users, (ii) apps evaluated, (iii) comments, and (iv) suggestions for new apps.

The developed app was created to disseminate apps with pedagogical potential for all areas of study; it contains a strategy that involves teachers in the apps assessment and the sharing of their pedagogical adequacy. It also promotes the participation of teachers in the identification and sharing of new applications that are not yet included in the app portfolio. This way, it contributes to the pedagogical innovation in the adoption of technology inside and outside the classroom in a device that students value highly and allows bringing the world to the school and taking the school to the world.

Description of EDUAPP mobile application

The development process of the mobile application involved several fundamental steps: identification of requirements and analysis, conception of the design, implementation of ideas and testing. The design of the app started with the identification of the functional and non-functional requirements that were defined through the data collected in the literature review.

So, the following were defined as functional specifications: (i) For an unauthenticated user: login and / or create account. (ii) For authenticated users: search for apps, see their details, comment, rate, suggest new apps and log out. The user with an administrator profile can take advantage of the requirements of the normal user and also add, update and delete an app.

These are the defined non-functional specifications were: (i) Security: only persons with a password should access the application for confidentiality and privacy reasons. (ii) Simple use: intuitive, the language and graphics are easy to understand. (iii) Speed: fast navigation between pages and in the registration of information. (iv) Reliability: the user can successfully complete his tasks.

As stated earlier, the main objective of this project is to provide teachers with a repertoire of apps which: (i) provides them with a set of applications that can be used in the classroom, (ii) allows them to evaluate the apps through a model and (iii) permits the sharing of experiences and good practices in their use.

The EDUAPP mobile application implements the functionalities and modules that are considered essential for the teacher to search for apps in a repertoire and, above all, that allow: (i) to provide relevant information in real time, (ii) to access the installer of an app regardless of the smartphone's operating system, (iii) to make comments and view previous comments, and (iv) to evaluate an app.

It is important to emphasize that mobile devices have a large number of specificities, for example, the size of the screen, particular implementations of the operating system (Android, iOS, among others), physical interaction, and other aspects that dictate how the application will behave in a specific environment. In this context, a multiplatform development was used, within the IONIC CORDOVA programming environment, which prevented depending on implementations in different mobile operating systems. This means that an application can be compiled and launched to be supported by multiple devices, with different operating systems, without having to develop versions of the application according to different ecosystems.

The different modules of the application, which in the IONIC programming environment are represented by pages, are presented below.

Login

After logging in, the app presents, on its home page, a user authentication form (User and Password) to enter the application (figure 1).

In the first access, the user must create a new account by clicking on the page where a new user is registered by filling in a form (Username, Password, Password Repeat and Email).

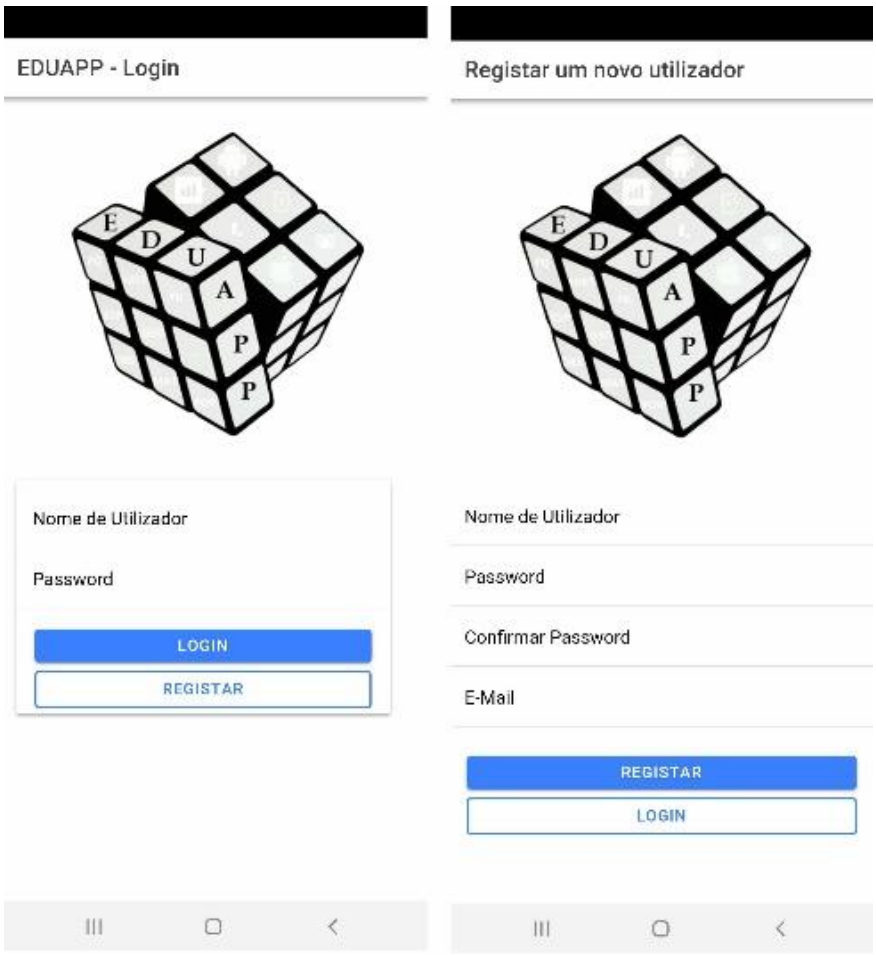

Figure 2 EDUAPP – Login and registration screen

List of apps available in the repertoire

After validating the login, it is in the main page of the application that the list of all apps in the repertoire is presented, with the logo and the name of each one. As it can be seen in figure 2, at the top, there is a search field that allows the user to make a filter, or several at the same time, to find one or more applications. The search is launched whenever a character and search is added in the name and / or tags field, which allows the user to find an app by name or by the information found in the tags field, for example, the acronym of a subject (math) or features of the app (collaborate, evaluate,…). In each of the apps, when moving to the left with one's finger, two buttons appear, enabling the user to view and comment on or evaluate the selected app.

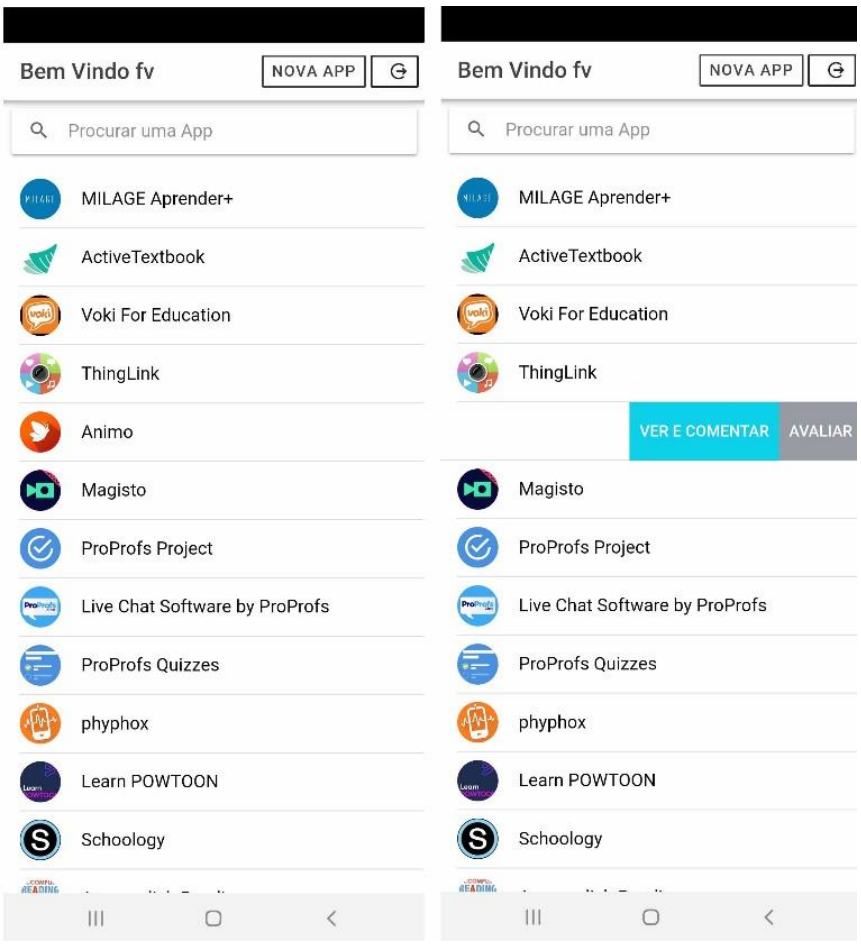

Figure 2 EDUAPP - screen with the List of Apps

In the upper right corner, there are two buttons, one - new app - that allows the user to suggest a new app so that, after being analysed and tested, it can be introduced in the repertoire, and the other - logout - to exit the application.

View and review an app

This page shows the details of an app with the name, the number of reviews, the logo, a brief description of the app, the tags - set of characteristics that allow its classification -, a summary graph of the evaluations (Total, Pedagogical, Intrinsic Quality and Motivation), user comments and a field to add a comment.

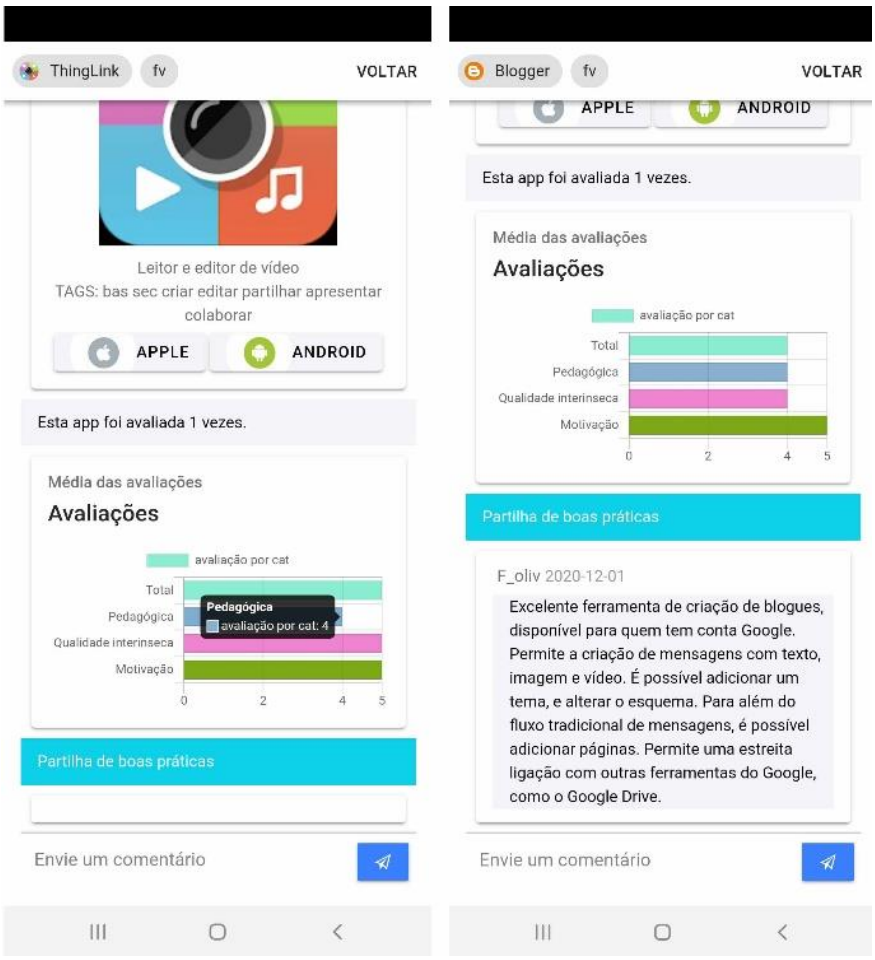

Figure 3 EDUAPP - Detail screen commenting on an app

It should also be emphasized that the APPLE and ANDROID buttons will only be visible if that application is available on the Apple istore and on the Google playstore. If the app is only available in one of them, only one button will appear. By clicking on one of the buttons (depending on the smartphone's operating system) to install the app, a search for the name of the app is launched at the istore or the playstore, which leads directly to its most updated version. This method is considered to be the most effective, since the speed with which new equipment appears implies a constant update of mobile applications so that they remain functional, regardless of the version of the operating system and / or smartphone.

Rate an app

The evaluation model used at EDUAPP, the result of a previous investigation, is divided into three categories: (i) pedagogical, (ii) intrinsic quality and (iii) student motivation (Veiga & Andrade, 2020).

This module enables users to rate an app. As shown in figure 4, the list of 21 questions related to the evaluation of an app is presented in the pedagogical, intrinsic quality and motivation dimensions, and

the user can score each item from one to five. When submitting, the number of ratings is updated as well as a graph with the summary for each of the apps.

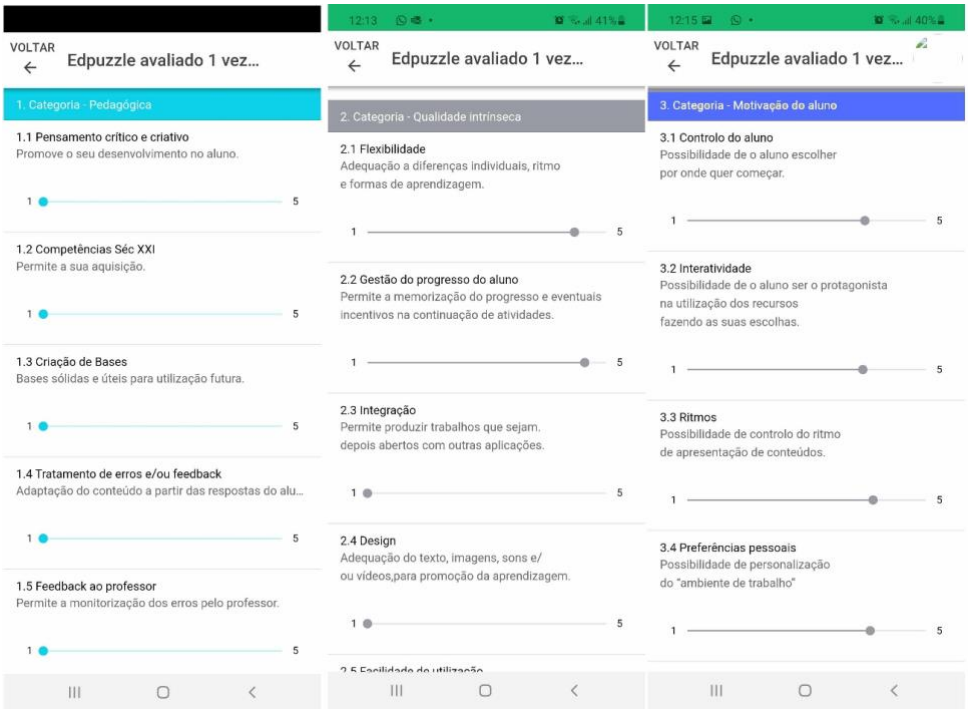

Figure 3 EDUAPP – App evaluation screen

Add / Edit an App

This module is only available to the administrator so that new applications can be added and each of the apps in the repertoire can be edited.

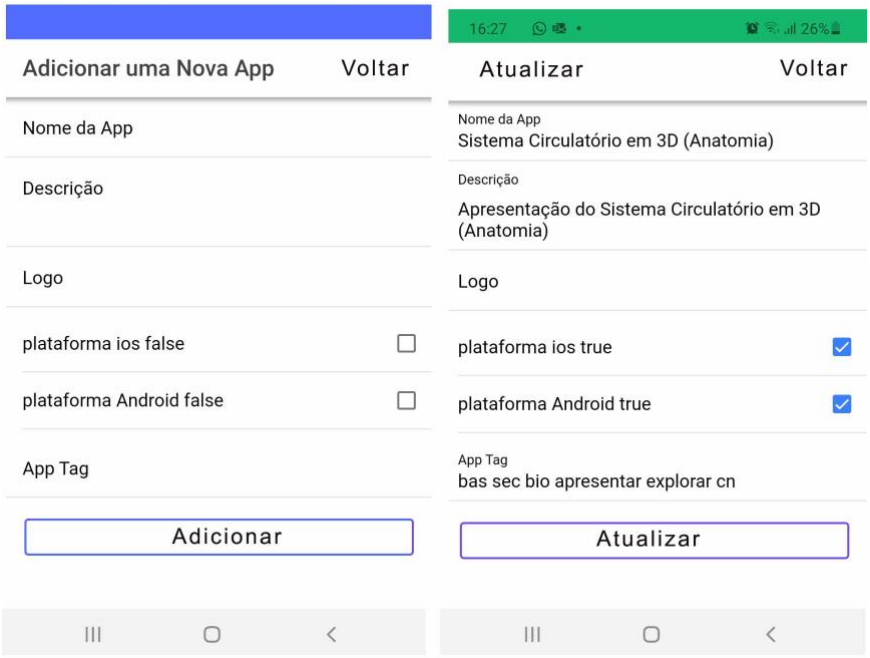

Figure 4 EDUAPP – Add and update an app screen

Results analysis

In a first stage, EDUAPP was made available along with a tutorial, in November 2020, via email, to the 116 teachers at Almeida Garrett Secondary School (ESAG), since, due to the pandemic situation we were experiencing, we were unable to invite the teachers for a live presentation of the project at school. Subsequently, two sessions were scheduled via "Teams", at the beginning of the second term, to present the project, the app and its characteristics and potential.

The repertoire contained 137 apps at the time of its distribution, some of which were already known and used; for the remainder, “Top Tools for Learning 2020” was used, which annually provides the result of a questionnaire on the most used teaching tools, checking whether there was an app for each of these tools (https: // www.toptools4learning.com/).

In the first two months of use, 41 teachers were registered, 207 evaluations were carried out and 46 new apps were added. Graph 1 represents the number of evaluations carried out in the different apps in the repertoire, and it can be seen that 45 apps have not yet obtained any evaluation, 92 one evaluation and the remaining two or more evaluations.

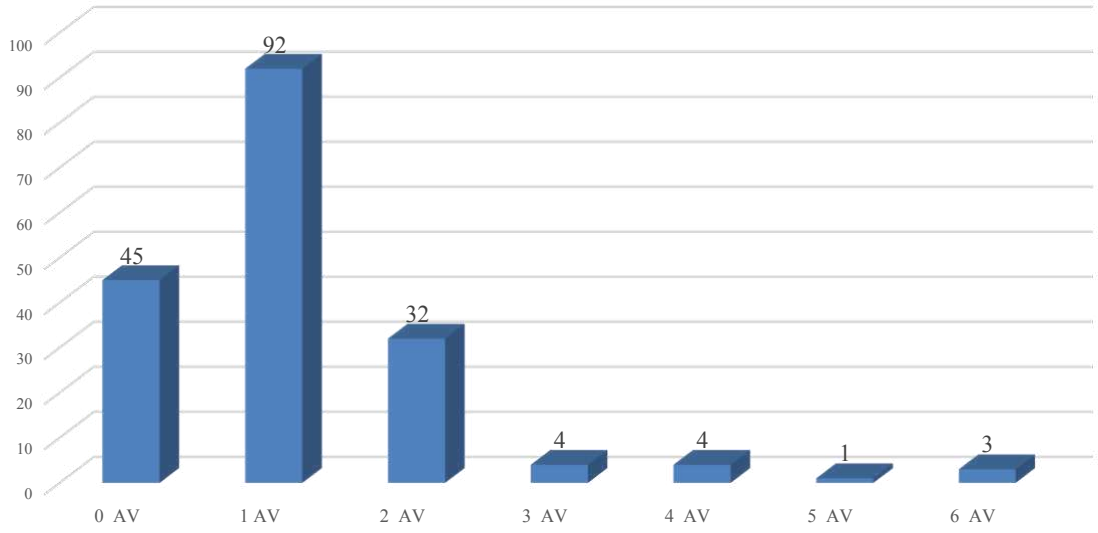

Chart 1 Distribution of app ratings

The apps most rated by teachers can be organized into three major groups: the group which allows students to be assessed through questionnaires, the one containing the presentation of a content / material repository and communication with students, and the one including elaboration and presentation of tasks (graph 2). “Kahoot” and “Mentimeter” stand out for evaluation, with partial characteristics of LMS, or just communication, “Google Classroom”, “Microsoft Teams”, “Edmodo” and “Zoom”, which, in addition to providing content, such as “NASA”, allow, in some cases, the evaluation of students, and “Ted”, “Padlet” and “Canva”, for the creation and presentation of work.

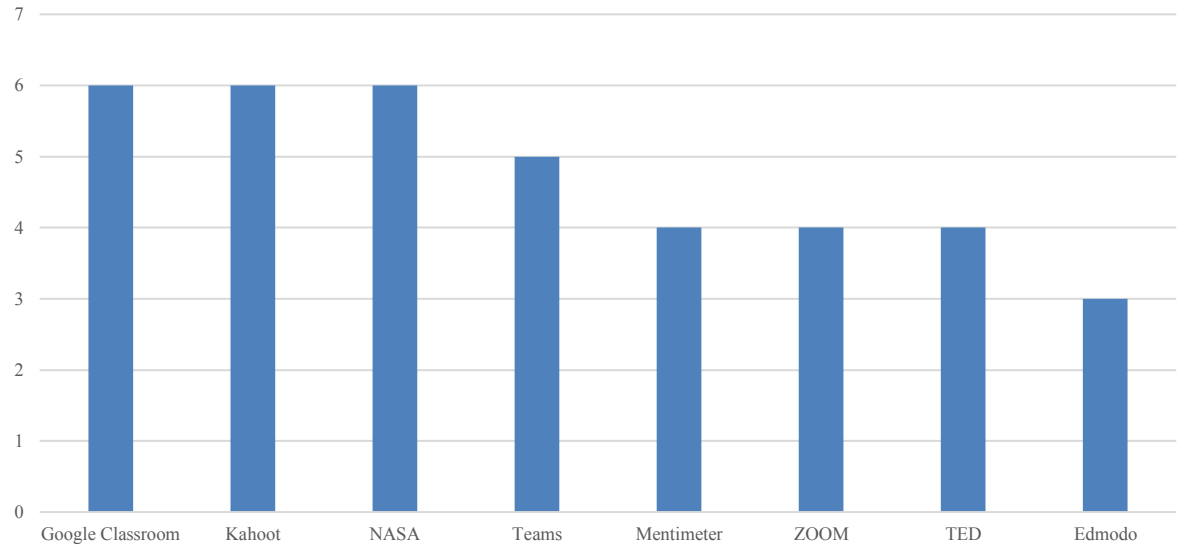

Chart 2 Apps with more ratings

EDUAPP also offers the possibility for a teacher to suggest an app to be included in the repertoire, with 42 new apps being suggested and introduced in the first two months of use. If most of them provided content for students to have access to data or information to carry out their tasks or study, others were for a more specific job in terms of activities in the classroom, requiring skills from the teacher for its implementation in class. In this context, the highlight is in "Milagre Aprender +", a tool to support students in the autonomous resolution of worksheets and teachers in the management of their time in the classroom, and in "Nearpod", which allows the creation of interactive sheets with videos, texts and images.

Conclusions

The use of smartphones inside and outside the classroom is now a reality at ESAG. In this academic year 2020/2021, institutional emails were created for all students and teachers through the protocol established with Microsoft, thus making available to the school community the different Office 365 applications, including Microsoft Outlook, Microsoft Teams, Microsoft Forms, Microsoft Classnotebook, Microsoft Onenote, Microsoft Word, Microsoft Excel and Microsoft PowerPoint. Most teachers used "Microsoft Teams" in their classes throughout the schoolyear, taking advantage of it, either to develop a questionnaire or a task, or to communicate and transmit classes to students who were confined at home. The evaluations carried out so far lead to conclude that, in addition to Microsoft Teams, teachers like and use other platforms such as Edmodo, Zoom or Google ClassRoom. The apps with an immediate interaction were the most used, because a questionnaire allowing to evaluate, in real time, if a certain content is being understood by the students enables the teacher to organize the next lessons and better guide the students to overcome any difficulties. It could be noticed, with satisfaction,

that a group of teachers uses these tools and expresses, through shy comments, the need for more free features in some apps.

The different evaluations of the apps made by the teachers permitted to witness their pedagogical value as well as their attributes of quality and the motivation of the students by using them. It is emphasized the importance of teachers' training for their update and the presentation of new educational apps, which should combine pedagogy with the use of technology in the classroom. The suggestion of new apps reveals that some teachers already know and use them in their teaching activities as a complement to textbooks and / or worksheets.

This is a continuous process of learning and discovery that promotes creativity, fosters collaboration and develops new skills in teachers and students in the search of a greater and more appropriate contribution to the improvement of teaching and, consequently, of learning.

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RELIGIOSITY AS A COPING RESOURCE DURING THE COVID-19 CRISIS AMONG CATHOLIC UNIVERSITY STUDENTS

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Dorota Kornas-Biela**

Abstract

This study focused on university students, mostly young adults, coping with the challenges of academic learning, part time work and interpersonal adjustment, and on top of that – the abrupt change in learning methods and routines during the COVID-19 pandemic. Fear of an unknown future, social isolation, the need to quickly acquire new technical skills necessary for remote teaching are major factors associated with stress, anxiety and in the longer run – depression and other negative outcomes. 159 pedagogy students from a Catholic university took part in an online study in April 2020. The results revealed that being Catholic provided participants with a deep sense of hope understood as the the expectation of 'good things' and goal-directed energy. Religiosity was negatively correlated with depression but not anxiety. The results support the role of hope in young adults coping with stressors, and even more than that offer a new insight into the role of religiosity as a coping resource, a buffer against depression in times of the pandemic.

Keywords: digital education, personal resources, distress, well-being, religiosity, COVID-19

Introduction

The first case of coronavirus infection in Poland was found on 4 March 2020. From 15 March, restrictions on border traffic have been introduced. From 11 March, all schools and universities implemented only remote teaching. From 20 March 2020 up to date, an epidemic state has been in force in Poland. Along with the announcement of the epidemic, a number of restrictions related to social contacts were applied, e.g. a number of public institutions, shops, schools were closed, access to the doctor was mainly through e-advice. Churches were closed (this was particularly painful during the

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Easter holidays). Polish bishops granted dispensations from the obligation to attend mass, and even encouraged people to stay at home. Only after 20 April the possibility of worship gradually restored, e.g. in a church there had to be at least 15 m2 of space per person. Such restrictions limited religious practice. At the same time, new opportunities emerged in the media - participation in Mass via radio, television or the Internet. Many parishes organised online broadcasts, thanks to which Poles could "be" in their church and listen to their priest. Religious worship moved into the home has intensified a phenomenon referred to as the mediatisation of religion (Przywara, et al., 2021). While some predicted that many religion followers would never attend churches again because they would realise that they did not need religious practice or would become accustomed to 'watching' services, others perceived it as an opportunity for religious awakening and more fervent participation in services.

Research conducted in April 2020 by the Public Opinion Research Center on a sample of 1,309 Poles found that 75% of respondents had not changed their religious commitment and 12% were spending more time in prayer and other religious practices. Three-fifths of the public (60%) had attended Mass at least once via television, and two-fifths (40%) felt a lack of community prayer in church. Those with above average religious commitment prior to the national self-isolation during its time prayed more, went to church or attended online services and those who practiced regularly maintained their level of religious commitment. In contrast, those with little previous practice showed even less religious interest during the pandemic (Bożewicz, 2020, p. 9).

Research project description

The study has been conducted as a part of the general project focused on exploring psychological functioning of undergraduates during the outburst of the COVID-19 pandemic. We aimed to investigate social aspects of ‘new reality’ which was created as a consequence of major restrictions imposed by Polish government due to the spread of Sars-Cov2 virus. Our research was carried out in April 2020 (namely during which the government’s strictest restrictions were in force) on the sample of 159 undergraduate students of the John Paul II Catholic University of Lublin.

First stage of research during the onset of the pandemic - wearing masks

At first, our research focus was placed on wearing protective masks as a psychological experience, considering the psychological, cognitive and cultural aspects. The aim was to analyze the associations and attitudes of students towards the restrictions related to COVID-19, including their attitude towards wearing protective masks in contact with others. The research was conducted soon after the regulations

were issued by the Minister of Health, Łukasz Szumowski - April 10, 2020 which resulted in the government launching a campaign to purchase masks and protective clothing.
The research questions explored the associations and emotions evoked by protective masks, the level of observance of the regulations concerning COVID-19 safety, as well as the factors affecting a positive or negative attitude towards wearing protective masks (Kornas-Biela, Martynowska, Biela-Wołończiej, 2021).

The main results revealed that respondents who experienced a worsening health condition approved of wearing masks. Covering the face evoked positive feelings related to the safety the mask provides. However, negative aspects of wearing protective masks were generally predominant, caused not only by the physical discomfort, but also by a sense of threat that they evoke and feelings of isolation caused by the interpersonal barrier they create. Willingness to comply with the restrictions associated with the pandemic was linked to a higher level of hope for the future, the feeling that 'it will be fine'. A mask worn on the face as a means of personal protection in the COVID-19 pandemic turns out not to be a neutral hygienic object, but has a strong psychological and social significance, taking over the functions that the mask plays in people's culture in the literal, psychological and social sense. Colorful prints on the masks have not merely a decorative or humorous role, but are also a coping strategy with the psychological difficulty. This study was of significant value as it showed that it is worth considering the role of protective masks as a barrier in interpersonal relations in the process of establishing psychological support and coping strategies with the negative results of the COVID-19 pandemic.

Second phase of research during the onset of the pandemic - mental resources

The second part of the research project pertained to coping resources of students in the face of threat and high-risk situations on the example of COVID-19 pandemic. The rapid spread of the SARS-CoV-2 virus in spring 2020 imposed also for students many restrictions which in turn exposed individuals and groups to stress resulting from the fear of contracting the virus, anxiety about uncertain future, unemployment (the loss of financial support and the loss of employment of their parents and other relatives), and the constraints related to lockdown measures such as social isolation. Most students left the dorms and the cities where they studied and returned to their family homes, which resulted in isolation from peers and friends and exposure to experiencing all the problems that families faced, e.g. difficulties in organising remote learning for several children in a family, staying together all day without being able to leave, fear for the health and life of a loved one, illness or death). The functioning of families has then changed. In many families, not only the previously dysfunctional ones, conflicts, forms of various violence and mental health breakdowns of parents and children increased (eg. Kornas-Biela, 2020). On the other hand, students who remained away from their families experienced longing,

helplessness due to the impossibility to help, fear for the health of their loved ones, sometimes mourning after the death of someone, especially because most often they could not say goodbye to them In such 'new reality' students also have to cope with the challenges of digital learning which required developing new technical skills necessary for remote teaching.

On top of that students faced loss of part time employment, limited social interactions which altogether triggered stress, anxiety and depression. Therefore, the COVID-19 pandemic has created an urgent need to understand the protective factors that can buffer students against psychological distress experienced in the digital age.

Background of the study: Individual resources

In the face of challenging situations which often adversely influence daily functioning, an individual absorbs their resources to cope with the stressor. Positive psychology has widely researched this perspective primarily on the basis of the salutogenic approach (Freedy and Hobfoll, 1994) which has been adopted in the following study. This approach concentrates on factors which facilitate health and wellbeing, beyond a more traditional, 'pathogenic' focus on risk and problems. It may be assumed that the individual when faced with a risky, threatening situation is able to engage psychological resources which are at hand. These individual capacities relate to coping resources which includes e.g. resilience, mental toughness, hardiness or a sense of coherence. Individual resources become personal strength which enables better coping with challenges and life difficulties. As a consequence, due to effective coping, the individual boosts and expands the capacity of such resources (Seligman and Csikszentmihalyi, 2014).

Religiosity

In the last two decades, a body of evidence has linked religiosity with effective coping in the face of life challenges and stress in diverse settings (Wright, Yendork, and Kliewer 2018; Reutter 2012; Aukst-Margetić and Margetić 2005; Maltby and Day 2003; Stefanek, McDonald, and Hess 2005). Religiosity understood as subjective influential experiences may buffer the adverse effects of stressor. Theoreticians and empiricists alike presented models associating spirituality, and religious belief with more effective coping with challenges and hardships. While various models emphasize different aspects of the process, they seem to agree on the pivotal role of religious belief as means of finding meaning and significance, regain sense of control and gaining comfort through closeness to God and peers in the community (Pargament, 2011). Most prominent in this field is the theory of religious coping (Abu-Raiya and Pargament, 2015): the theory defines 'religious coping' as a dynamic proves by which

individuals (and potentially groups) discover meaning, generate a subjective sense of control, to gain social support and use faith to experience comfort (Pargament, Koenig, and Perez 2000). People often turn to religion and spirituality in times of challenge, hardship or stressful life events (Ano and Vasconcelles 2005).

Religiosity is a difficult concept to define in the context of empirical research. It is a general term reflecting the extent to which individuals or groups adopt and internalize a set of perceived assumptions, rules, ideals and dogmas typically derived from an organized religion (Holdcroft 2006). But religiosity goes beyond the acceptance of a rule system or specific doctrine. It includes adopting a belief in a given world order and the powers that govern it. As such, it may establish a psychological frame of reference that provides a sense of understanding of the world and events that take place in it and offer opportunities for introspection and self-learning (Fancourt 2010). On a deeper psychological level, the internalization of religious beliefs provides a sense of purpose, a sense of clarity and a subjective sense of 'understanding how the world works' which may serve to reduce sense of helplessness and help with meaning-making, especially when coping with challenging events (Lichtenthal, Burke, and Neimeyer 2011).

At the social level, being a member of a religious community gives a sense of belonging through mutual support (Aneshensel 1992). At the same time, on the individual level, religiosity may empower an individual to take control of challenging life events by adopting rules of conduct embedded in a specific doctrine. Religiosity influences the choice of general life goals as well as more specific priorities, decisions and choices in everyday life, hence it is related to what tasks we undertake, what motivation we have, how determined we are to achieve the chosen goals, e.g.our study joins a developing body of knowledge using a more complex lens through which to explore the role of religiosity in coping with life challenges, in our case, college achievement. Our previous research results suggests that the extent to which students adopt religious practices may be associated in a complex manner with individual resources that, in turn, help them obtain their academic goals (Kornas-Biela, Martynowska, Zysberg, 2020).

Other authors pointed out how religious faith provides both the acceptance of the existence of higher beings who may protect individuals and groups from harm, as well as the belief in afterlife, which through the lens of terror management theory may serve to reduce existential threat and stress in times of challenge and trial (Vail et al. 2010). It is an important resource in individuals and groups' coping with stress and psychological challenges, promoting a sense of well-being even in dire conditions (e.g.: Braam et al., 1997; Sakellari et al., 2018). However, the empirical results regarding the role of religiosity as a protective factor against stress are inconsistent (Kutcher et al. 2010; O'Connor, Cobb,

and O'Connor 2003). It may actually be positively associated with stress and depression (e.g.: Khoo et al., 2021), which, from a psychological point of view, is regarded as a negative effect of religiosity on the psyche. However, it should be mentioned that this is a reductionist approach to the spiritual life, because a decrease in well-being, anxiety and inner conflict can be a stage on the path of growth. The spiritual life is characterised by religious crises accompanied by stress and depression which are necessary for not only spiritual, but also psychological development (cf. the theory of positive disintegration by Dabrowski, 1964; Dabrowski, Kawczak, Sochanska, 1973).

Hope

Hope is a relatively difficult construct to explore in a one-dimensional manner. From one side, it may be examined through the lenses of spirituality providing a deep sense of meaning to believers or religious followers. On the other hand, there is a considerable vast amount of research which captures hope as a cognitive process. A prevailing theoretical framework of such perspective constitutes hope theory developed by Snyder, Irving and Anderson (1991) where hope is understood as goal-directed thinking. As a positive emotional state hope enforces individuals to determine and purse a personally relevant goals which ought to be significant enough to occupy a person's conscious thought. In this cognitive process, goals become the outcome and at the same time are essential to 'launch' the whole process.

The hope theory (Synder, et al. 1991a) treats hope as a two-dimensional construct encompassing goal directed energy – called as agency, and the mental capacity to plan referred to as pathway thinking. Agency understood as will-power relates to self-beliefs and perceptions regarding one's personal abilities to achieve a given goal. Those beliefs serve as a fuel which produces cognitive energy necessary to take some actions. To be more precise, the individual would develop a specific mental state issuing thoughts such as "I believe things will go right for me". On the other hand, pathway thinking is more focused on precise planning of how to meet goals. It is more of generating various ways, creating possibilities, finding paths leading to goal attainment. In a sense, we may refer this dimension of hope as more productive and action-focused mental ability.

Negative psychological outcomes of prolonged stress

A rich vein of contemporary research investigates negative psychological outcomes such as depression which is one of the most prevalent and incapacitating forms of psychopathology (Kessler et al., 2005). More recently, in the face of COVID-19 pandemic, emerging evidence from across the globe shows

that posttraumatic stress disorder (PTSD) and depression symptoms are common in the general population during the early phase of this pandemic outburst.

Major depressive disorder (MDD) is classified by DSM-5 with strict conditions of symptoms frequency and intensity such as depressed mood or loss of interest or pleasure (anhedonia) during the same 2-week period (APA, 2013). Delving deeper into the theoretical framework of depression, it is essential to mention that over the last 50 years researchers have supported the stance that depression is characterized in cognitive terms, that is the occurrence of negative biases, and often by a lack of positive biases, in self-referential processing, interpretation, attention, and memory, as well as the use of maladaptive cognitive emotion regulation strategies (LeMoult and Gotlib, 2019). Generally speaking, depression may be understood as a disorder of impaired emotion regulation (Joormann and Gotlib, 2010) captured as cognitive processes that individuals use to manage their emotional responses to environmental stressors.

The literature states that psychosocial responses to infectious disease outbreaks such as COVID-19 may also involve the feelings of anxiety or weakness, an overestimation of the likelihood of infection reflected in the excessive and inappropriate adoption of precautionary measures (Choi et al., 2020). Thus, it is of prime importance for our research to investigate the role of anxiety in coping strategies. From the theoretical point of view, anxiety encompasses physical, behavioral, and cognitive symptoms such as nervousness or shakiness, tension, fear, feeling restless or being scared. More importantly, bearing in mind the cognitive aspects of this disorder, the individual may experience low emotional clarity, inability to process and regulate emotions, and difficulty in managing relationships (Aderka, et al., 2012).

Taking depression and anxiety into account, the major underlying aspect of both constructs pertain to a cognitive impairment of emotional regulation. This process is based on identification and managing emotions experienced as overwhelming at a given point of time or psychological crisis. Thus we found it imperative to explore these negative psychological outcomes during the COVID-19 pandemic.

Research sample It's a sample of what universe? Or it's a full set of subjects?

The study was carried out in a mid-sized Catholic university, with 12,000 students, located in Poland. The majority of students are Catholic, but they vary in the extent to which they perform religious practices. The sample was derived from the Insititute of Pedagogy at the Faculty of Social Sciences. It was an online study carried out in April 2020. Around 220 pedagogy students received a link with the invitation to take part in a study about student life during the pandemic. Finally, a convenience sample

of 159 pedagogy students agreed to participate in the study, there were no missing data. The mean age was 21 (sd=3.40), 95% of which were women.

Measures

The outbreak of the pandemic caused great fear and anxiety about one's own health and that of one's loved ones, about the material basis of one's existence and further personal fate and that of one's loved ones for the next few years (it was announced that the vaccine would not be available so soon). The stressful situation lasting for several weeks in spring 2020 and the lack of prospects for improvement of the situation in the nearest time space caused not only anxiety, but also lowering of mood, breakdown of well-being, appearance of symptoms of chronic sadness, apathy, sense of helplessness and even depression. Therefore, the research undertaken sought to examine the level of these psychological variables by using The Brief Symptom Inventory (BSI) (Derogatis, 1975), in particular two subscales measuring the levels of depression and anxiety on the basis of self-report.

At the same time, a question was asked about the psychological resources that might be important for Catholic university students in coping with a difficult situation, so two variables and thus two instruments were chosen to examine religiosity and hope. To assess the degree of religious commitment, The Duke University Religion Index Index (DUREL) was used. It consists of five items measuring religious involvement (Koenig et al. 1997). The scale has high test-retest reliability, high convergent validity with other measures of religiosity and "has been used in over 100 published studies conducted throughout the world" (Koenig, Büssing, 2010).

To explore hope the Snyder's trait hope questionnaire was adopted. This scale measure hope as a cognitive process according to hope trait theory presented by Snyder (1991a, b, 1994). The Scale constitutes two subscales: 'agency' (four items) and 'pathways' (four items). Dodatkowo four items are fillers. Participants respond to each item using a 8-point scale ranging from definitely false to definitely true. (original worksheet see: https://booksite.elsevier.com/9780123745170/Chapter%203/Chapter_3_Worksheet_3.4.pdf.)

Procedure

Around 220 pedagogy students received a link directing them to the university platform where they could fill out the questionnaires. The drop-out rate comprised 28% and finally 159 students agreed to take part in the study. The right to withdraw from the study at any point of time was presented to the participants at the very beginning of the study. Participants were volunteers who were ensured about the anonymity. The university's Ethic Committee granted a consent to conduct the study.

Results

The study employed the Pearson correlation analysis to explore associations between research variables. Some descriptive statistics (*Mean* and *SD*) along with Cronbach's *alpha* for each scale are presented below (Table 1.) The results show a strong significant correlation between two subscales of hope, namely agency and pathway thinking (r=.73, p<.01). A positive relationship between religiosity and hope in both dimensions was also found (r=.23, r=.26, p<.01) indicating that being Catholic provides them with a deep sense of hope. Religiosity also significantly correlated with a negative mental state of participants – that is depression (r=-.24, p<.01). Religious subjects experienced a lower level of depression. Another negative relationship was also found between depression and hope captured two-dimensionally (r=-.37, r=-.24, p<.01). Depression as a negative psychological outcome correlated with anxiety quite strongly (r=.63, p<.01) which implies a unified construct comprising of these two variables. The only significant correlation of anxiety was found with agency (r=-.22, p<.01) understood as a goal directed energy. Feeling anxious decreased the level of energy necessary for goal attainment.

Table 1. Descriptive statistics and zero order correlations among the study variables

		Mean SD	Chronbach's Alpha/ value range	1	2	3	4	5
1.	Religiosity	18.45 5.95	.88 5-27	--				
2.	Hope agency	20.90 4.67	.71 4-32	.26**	--			
3.	Hope pathways	23.19 4.59	.78 11-32	.23**	.73**	--		
4.	Anxiety	9.49 6.12	.90 0-24	-.05	-.22**	.09	--	
5.	Depression	8.27 5.72	.89 0-24	-.24**	-.37**	-.24**	.63**	--

*p<.05 **p<.01

Discussion

With the number of people in the world infected with coronavirus rapidly increasing in February 2020, indications in Poland were made as early as March that quarantine, social distancing, protective clothing (including masks), and isolation could counteract the emergence of a COVID-19 pandemic. Government communication strategies on how to avoid infection, as well as support in managing the

economic downturn, were paramount (Anderson, et al. 2020). Yet, these strategies focused primarily on physical health not addressing the psychological consequences of social isolation.
The following paper addressed the issues of mental health of young Polish students and their coping strategies in the face of abrupt challenge of individual and social functioning in the new "COVID-19" reality. As a Catholic university researchers we intentionally focused on religion as a coping resource.

Religiosity that is associated positively with the perception of hope, or the expectation of 'good things' even in times of trouble may undermine most of the factors associated with psychological distress (e.g.: learned helplessness, loneliness, perception of randomness in life, etc.). A rich vein of contemporary scholarship examined such association, for instance a review examining over 3000 academic articles for the International Journal of Emergency Mental Health and Human Resilience, found a "positive effect" of religion/spirituality on various health outcomes, including minor depression, faster recovery from depressive episodes, lower rates of suicide, less use, abuse and substance dependence, greater well-being, and self-reported happiness (Lassi and Mugnaini, 2015).

Indeed, our research proved that religiosity was negatively associated with depression. Our research showed that religious students experienced a lower level of depression. This result stands in line with another study which showed that religious coping reduced anxiety and depression among healthcare workers amid the pandemic (Chow et al., 2021). Such association has been also reflected by some statistical data retrieved from the study carried out by Boguszewski et al., (2020) on the sample of 1001 adult Polish respondents in the April 2020. The study revealed that 21.3% of respondents answered "definitely yes" or "probably yes" to the statement "I now devote more time than before to prayer and other religious practices". Those who had usually practiced more than once a week before the pandemic increased their religious commitment during the pandemic. In accordance with the theory of religious coping developed by Abu-Raiya and Pargament (2015) it may seem that individuals (and potentially groups) sought for meaning, subjective sense of control, and used faith to experience comfort in the face of the pandemic.

Nevertheless, our research revealed that religious participants did not experience a significantly lower level of anxiety. Thus, religiosity may not be captured as a bullet-proof vest against unexpected and extreme life challenges. There may be a two-fold explanation to such finding.

Firstly, religiosity may be perceived and interpreted differently across different individuals and that these differences in how people interpret their beliefs may account for the discrepancy in results. Moreover, religion as an important element of personality cannot be treated in a one-dimensional and utilitarian way, as a means for well-being and protection against mental disorders. The goal in a person's

life is not the absence of stress and the experience of anxiety and lowered well-being can ultimately serve the development and mental health (cf. anonymous review to the article by Szałachowski, Tuszyńska-Bogucka, 2021, https://www.mdpi.com/2077-1444/12/4/267/review_report). Of course, a religiously immature way of coping with stress that involve a passive shift of problem-solving responsibilities to God may imply poorer adjustment (Pargament, 2002), but in mature religiosity a person does what he or she can to solve problems, leaving to God only what is beyond the scope of human action.

Secondly, in accordance with the theory of positive disintegration developed by Dąbrowski (1964) the individual may experience anxiety and stress as a crucial aspect of spiritual development understood as a growth characterized by periods of crisis. Building on this insight it may be possible that during the pandemic individuals might experience such periods while questioning the sense of their religion in the face of many deaths and unforeseen future.

Study limitations

The limitations pertain to the generalizability of the research results as a relatively small sample included a group of students from one Catholic university in one country, and it consisted almost exclusively of women. The time of the study was specific - in the first weeks after the outbreak of the pandemic, therefore the study is not replicable, and the method used to study religiosity is more suitable as an epidemiological survey to examine relationships between religion and health outcomes (Koenig, Büssing, 2010). The results of studies always depend on the research tool e.g. a systematic review of quantitative studies conducted by Kucharska (2020) to examine the patterns of relationships between religiosity and psychological outcomes of trauma revealed that these relationships depend on the construct of religiosity as it is understood, the research tool, and the type of trauma studied (e.g. related to a state of war, traffic disaster, natural disaster). In this situation of a pandemic, it is difficult to compare it to any other natural disaster, as it has spread all over the world and caused a widespread feeling of fear and helplessness, deterioration of material and health situation, social isolation, change in lifestyle, domination of the functioning of individuals and families by the media and the Internet. It is not possible to repeat this research, e.g. on a wider group of people, using a different tool to study religiosity or psychological variables), because the pandemic situation changed dramatically after the introduction of universal vaccination, so capturing this narrow aspect in this geographical-historical context will remain scientifically interesting.

Conclusions

To summarize the results of this study, it may be concluded that there is a statistically significant relationship between religiosity and a sense of hope, or more specifically, between being Catholic and a sense of deep hope that things will go well, that one has the ability to achieve goals that can be influenced and the energy to plan ways to achieve those goals. Because of this hope, more religious people experience less severe depression in stressful situations. Although religiosity did not prove to be a significantly protective variable against anxiety, more religious people are, thanks to hope, less prone to the destructive effect of anxiety, which lowers energy for action and thus are more efficient in achieving goals.

From the pedagogical point of view, the research suggests that the psychological variable of hope should be strengthened in young adults, who will be able to cope better with the stresses of life, such as those caused by the COVID-19 pandemic. A follower cannot treat his faith instrumentally or God as someone who has to rescue him from various difficulties and oppressions. The fact that religion gives strength to overcome adversity does not mean that it has to be treated instrumentally (as various sociological, psychological theories treat it), i.e. as a tool to provide the individual with a sense of meaning in life, hope for the future and strength in the face of various events that may occur.

From a religious point of view, faith in God gives this strength as God enables the person who has placed his hope in him to trust him in everything, hence the person is more emotionally stable and less fearful of an uncertain future. A human ought to believe in God because God is God and deserves to be honoured and trusted, and not because he will gain something from it, e.g. greater emotional stability and hope for the future. This is an attitude consistent with the thought of St. Augustine of Hippo: "Work as if everything depended on you, but trust as if everything depended on God." Thus, an individual's religious faith will promote their mental health, and emotional stability and a mature personality will promote a mature experience of religious faith.

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EDUCANDO ENTRE PANTALLAS: DESAFIOS PARA DOCENTES Y FAMILIAS

Ana García-Valcárcel Muñoz-Repiso [*]

Resumen

Los educadores se enfrentan a nuevos desafíos en una sociedad caracterizada por la implosión de tecnologías digitales, la incertidumbre, el materialismo y el narcisismo. Nos encontramos ante nuevas generaciones que exigen una nueva forma de enseñar, son jóvenes impacientes y autodidactas, y quieren aprender de forma interactiva y dinámica. Ver un vídeo es, para muchos, la manera más efectiva de entender un tema.

Por otra parte, los problemas que han generado los rápidos cambios tecnológicos en nuestras formas de comunicarnos y acceder a la información son patentes y afectan a los jóvenes: infoxicación, falta de privacidad, inseguridad y engaño, ciberacoso, adicción, acceso a contenidos inadecuados por parte de los menores como el consumo temprano de pornografía, etc. Lo que nos lleva a preguntarnos, ¿tienen los jóvenes las competencias necesarias para utilizar estas tecnologías con seguridad y de forma apropiada?. Diversos estudios apuntan que estos problemas se deben a una falta de formación idónea para el uso de estos nuevos dispositivos y a la falta de estrategias para gestionar de forma segura y eficaz estos nuevos entornos virtuales y sin límites espaciales y temporales.

Por lo tanto, los retos para los educadores se sitúan en dos líneas: 1) La enseñanza se debe beneficiar de forma positiva de los nuevos desarrollos tecnológicos para mejorar los procesos de aprendizaje, facilitando la comprensión y los conocimientos significativos para los estudiantes. 2) La educación debe procurar paliar los efectos adversos de estos nuevos entornos de comunicación y aprendizaje, así como fomentar los valores para conseguir que sean ciudadanos comprometidos con la idea de un futuro más justo y equitativo.

Palabras clave: tecnología, alfabetización audiovisual, competencias digitales, educación en valores

Los educadores se enfrentan a nuevos desafíos en una sociedad caracterizada por la implosión de tecnologías digitales, la incertidumbre, el materialismo (Bauman, 2015) y el narcisismo (Lapuente, 2020). Un hábitat social y entornos de comunicación en los que las máquinas y las pantallas ganan

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terreno y adquieren el máximo protagonismo. Disponemos de unas herramientas de información instantánea que nos proporcionan acceso a grandes cantidades de datos de todo tipo (textos, imágenes, vídeos…) pero sin contrastada veracidad. Por lo que la evaluación y análisis crítico de la información se ha convertido en una destreza de gran relevancia.

La sociedad red (Castells, 2001) es una realidad. El acceso a Internet forma parte de nuestras vidas (gráfica 1). El 93,2% de la población de 16 a 74 años ha usado Internet en los tres últimos meses de 2020. A partir de los 10 años muchos niños comienzan a utilizar los dispositivos digitales para comunicarse, jugar y acceder a diversas aplicaciones de Internet (Instituto Nacional de Estadística, 2021).

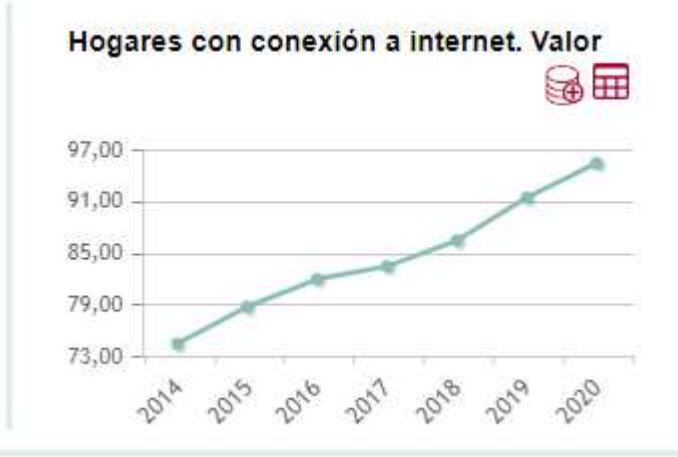

Gráfico 1. Equipamiento y uso de TIC en los hogares en España (INE, 2021)

Nuevas generaciones nacidas entre dispositivos digitales conectados a Internet y tecnologías interactivas que estimulan los sentidos y la hiperactividad a través de las imágenes, el movimiento y la continua solicitud de respuestas y reacciones. Se trata de la Generación Z, jóvenes nacidos entre 1995 y 2010, a los que también se les conocen como postmillenials, centennials, Generación K o post-Bieber. La Generación Z exige una nueva forma de aprender, son jóvenes multitarea, abiertos de mente, innovadores, impacientes y autodidactas, y quieren aprender de forma interactiva y dinámica. El 70% de los usuarios centennials han visto un vídeo para aprender algo nuevo o para profundizar en algún tema que les interesa. Ver un vídeo es, para muchos, la manera más efectiva de entender un tema, y los contenidos en YouTube son muy diversos. Según el estudio de Pearson (2018) Beyond Millennial: The Next Generation of Learners, el 59 % de los estudiantes de entre 14 y 23 años prefiere estudiar en YouTube que hacerlo con los libros de texto; y el 47% de los jóvenes pasa 3 horas o más diarias en YouTube. En este escenario, han surgido nuevas figuras divulgativas como los edutubers, youtubers especializados en Educación y divulgación. Algunos tienen miles de seguidores, como ExpCaseros, Unicoos, Date un Vlog, CdeCiencia, La Gata de Schrödinger o Ciencias de la Ciencia.

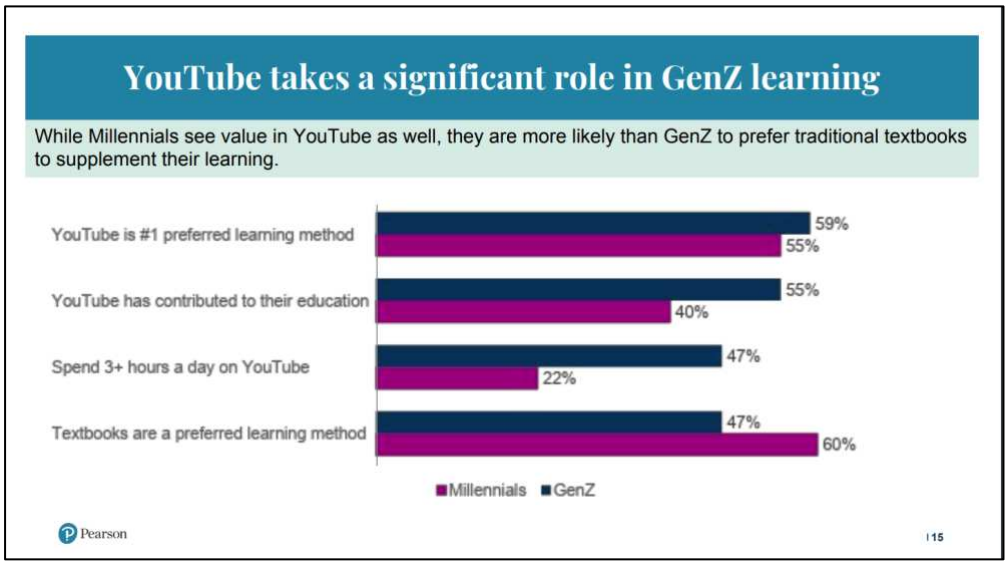

Gráfico 2. Youtube como método de aprendizaje (fuente: Pearson, 2018)

En un estudio realizado recientemente por el grupo GITE-USAL (Casillas-Martín, Cabezas-González y García-Valcárcel, 2020), se ha comprobado que más del 50% de los niños entre 12-14 años utilizan algún dispositivo móvil, tanto entre semana como los fines de semana, y casi el 30% lo utilizan todos los días. Lo que hacen con estos dispositivos es, sobre todo, ver vídeos, chatear con amigos y usar las redes sociales. Sin embargo, y esto es lo más relevante, su nivel de competencia digital, en base al modelo de competencia digital europeo Digcompt, es medio-bajo en conocimientos y capacidades, aunque bastante alto en actitudes. Sin encontrar diferencias significativas por sexo. Así pues, la situación es que los jóvenes utilizan y valoran mucho las tecnologías para comunicarse y aprender, pero no tienen las competencias necesarias para hacerlo con seguridad y de forma apropiada.

Por otra parte, sabemos que las aplicaciones (videojuegos, redes sociales….) contienen múltiples estrategias para provocar la continua atención de los usuarios, aumentar el tiempo de uso y, como consecuencia, generar adicción. En este momento el número de jóvenes adictos a Internet es muy elevado y las cifras siguen creciendo de forma alarmante. Las principales señales de alarma son (Instituto Superior de Estudios Psicológicos, 2020):

- Privación del sueño (dormir menos de 5h.) para estar conectado a internet, a la que se dedica unos tiempos de conexión anormalmente altos.
- Descuidar otras actividades importantes como el contacto con la familia, las relaciones sociales, los estudios o la salud.
- Recibir quejas en relación con el uso del internet o del móvil constantemente, incluso cuando no se está conectado y sentirse irritado excesivamente cuando la conexión falla o resulta muy lenta.
- Intentar limitar el tiempo de conexión, pero sin conseguirlo, y perder la noción del tiempo.

- Mentir sobre el tiempo real que se está conectado o jugando a un videojuego.
- Aislarse socialmente, mostrarse irritable y bajar el rendimiento en los estudios.
- Sentir una euforia y activación anómalas cuando se está delante del ordenador o del móvil.

Los problemas que han generado los rápidos cambios tecnológicos en nuestras formas de comunicarnos y acceder a la información son patentes: infoxicación (Innerarity, 2013), falta de privacidad, inseguridad y engaño, ciberacoso, adicción, acceso a contenidos inadecuados por parte de los menores como el consumo temprano de pornografía, etc.

Muchos de estos problemas se deben a una falta de formación idónea para el uso de estos nuevos dispositivos y a la falta de estrategias para gestionar de forma segura y eficaz estos nuevos entornos virtuales y sin límites espaciales y temporales. Diversos experimentos (https://www.youtube.com/watch?v=xvlYGc8glYE) y continuas noticias de actualidad han demostrado cómo los niños/as sucumben ante los engaños de adultos que pretenden abusar de su inocencia, y cómo las familias confían en que sus hijos no caerán en engaños y extorsiones hasta que, muy sorprendidos, lo comprueban con sus propios ojos. También hay informes que demuestran que cuanto más se utilizan las redes sociales, menor satisfacción tienen los adolescentes con su vida real (https://www.oii.ox.ac.uk/).

La educación, en este contexto de incertidumbre, tiene una relevancia extrema, no sólo por parte de los padres, madres, abuelos… sino en el contexto escolar. Se requiere una educación específica para promover la adquisición de competencias digitales, ya que se ha comprobado a través de diversos estudios (García-Valcárcel, Salvador, Casillas y Basilotta, 2019) que los estudiantes no son conscientes de los peligros de la Red, de la importancia de la huella digital y de su vulnerabilidad en cuanto a los contenidos publicados y la protección de su privacidad (más del 50% de las aplicaciones para niños vulnera su privacidad). También se observan problemas con la protección de los dispositivos, la adicción y el tiempo de conexión, la relación con otros, la salud visual, etc. En definitiva, la competencia digital para hacer un uso seguro y apropiado de Internet no está asegurada y no se obtiene por el simple hecho de utilizar las herramientas digitales.

En este sentido hay interesantes proyectos dirigidos a fomentar la alfabetización digital, tanto de ámbito internacional, es el caso de "Strategy for a Better Internet for Children" (https://www.betterinternetforkids.eu/web/portal/policy/better-internet), dirigido a todas las escuelas de la Unión Europea; como de ámbito nacional, es el caso de "Internet Segura for Kids", del Centro de Seguridad en Internet para menores de edad en España (https://www.is4k.es/), "Pantallas amigas" (https://www.pantallasamigas.net), o el proyecto "Digicraft" dirigido al desarrollo de las competencias

digitales de los niños y niñas entre 6 y 12 años, tanto en ámbitos de educación formal como informal, que ha desarrollado el grupo GITE-USAL con la empresa Vodafone (https://digicraft.fundacionvodafone.es/) o los recursos formativos elaborados desde nuestro propio grupo de investigación (https://sites.google.com/usal.es/proyecto-investigacin-evadiso/proyecto-evadiso?authuser=0)

Por lo tanto, los retos para los educadores se sitúan en dos líneas:

1) La enseñanza se debe beneficiar de forma positiva de los nuevos desarrollos tecnológicos (uso de información visual y audiovisual interactiva, simulaciones, realidad aumentada (Cabero, De La Horra y Sánchez, 2018), experiencias virtuales inmersivas a través de la Realidad Virtual… para mejorar la retención y comprensión de contenido. Resultan relevantes las experiencias que incorporan la interacción con diversos expertos en temáticas específicas distribuidos por todo el mundo, el acceso a la formación permanente de carácter formal e informal (MOOC, Webinars…) a través de diversas plataformas virtuales (Gisbert-Cervera y Lázaro-Cantabrana, 2020), las opciones para un aprendizaje ubicuo (Vázquez y Sevillano, 2015) a través de todo tipo de dispositivos móviles.
2) La educación debe procurar paliar los efectos adversos de estas nuevas realidades y entornos de comunicación y aprendizaje. Y debe dirigirse a fomentar los valores y las cualidades más humanas de las personas, para conseguir que sean ciudadanos comprometidos con las grandes virtudes que forman parte de nuestra cultura. Tanto las virtudes paganas, heredadas de la cultura romana (coraje, templanza, justicia y prudencia) como las virtudes que provienen de la cultura cristiana (amor, fe y esperanza). A continuación, me detendré en los retos educativos sobre estos pilares de carácter espiritual y no materialista.

Coraje. A pesar del proclamado respecto a la diversidad, las redes globales, a través de presión del grupo y los denominados youtubers e influencers, ejercen una importante influencia en los jóvenes, condicionando sus gustos estéticos, sus deseos, lo que compran, lo que comen, lo que ven, lo que leen, a lo que juegan… La educación debe implicarse en estimular el conocimiento y la aceptación personal, el desarrollo de la autoconfianza y al análisis crítico de los mensajes recibidos. Es importante la aceptación del propio cuerpo, de las propias limitaciones y defectos, es decir, de las características personales de cada persona, eliminando la presión de querer ser perfecto o ser como los demás. Para ello se necesita coraje y valentía, eduquemos desde la infancia para ello, para afrontar la vida sin miedo a ser diferente.

Templanza. Frente al exceso de actividad digital y el consumo, a veces inapropiado a la edad, de diverso tipo de contenidos digitales, pongamos freno al tiempo de pantalla (visionado de vídeos,

videojuegos…) Está claro que los excesos se pagan con problemas oculares, ergonómicos, anímicos, trastornos del sueño, sedentarismo, obesidad, etc. Los niños y jóvenes requieren del juego tradicional, del deporte, de la comunicación cara a cara. Estas actividades son necesarias para un desarrollo psicomotriz adecuado y una satisfactoria socialización. Tanto en el hogar como en el aula, los educadores deben combinar las actividades y tradicionales y físicas con las actividades y recursos digitales.

Justicia. La brecha digital es un concepto ampliamente utilizado para denominar las desigualdades que ha creado el desarrollo tecnológico digital entre diferentes sectores sociales. La justicia exige que todas las personas puedan acceder a los servicios que ofrece la sociedad tecnológica actual, tanto los jóvenes como los mayores, tanto las familias de un nivel socio-económico alto como bajo, tanto los ciudadanos de las ciudades como de las zonas rurales. La situación de la pandemia vivida este último año ha puesto de relieve los desajustes en el acceso a los recursos tecnológicos y las limitaciones de algunas familias para poder llevar a cabo una formación online obligada por las circunstancias. La conclusión es que se debe garantizar el acceso a la red a todos los estudiantes con objeto de proporcionar una igualdad de oportunidades.

Prudencia. Internet y todo lo que trae consigo se introduce en los hogares, en ocasiones, sin el control necesario de los adultos. Sabemos que el consumo que hacen los niños de contenidos digitales y el uso de Internet no siempre es apropiado para su edad. Muchos jóvenes se crean cuentas en redes sociales antes de la edad permitida, compran productos, incluso juegan a juegos de azar, consumen programas o películas, siguen a youtubers... que son para adultos. Los educadores deben controlar la dieta digital de sus pupilos. Para ello existen filtros que se pueden incorporar en los dispositivos, estrategias para hacer seguimiento de la navegación. Pero lo más apropiado sería negociar un contrato de uso de los dispositivos y acceso al mundo digital.

Amor. La televisión en su momento y ahora los dispositivos móviles se han identificado como niñeras digitales. Los niños se sienten atraídos y motivados por los contenidos lúdicos, interactivos y estimulantes que encuentran en estos soportes y pueden pasar un buen tiempo de diversión, mientras los padres/madres se pueden sentir aliviados de tener a los niños y niñas entretenidos. Pero esto no nos debe hacer perder de vista la necesidad de tiempo y contacto físico que requieren los niños por parte de sus educadores para sentirse queridos y crecer en un entorno de seguridad y confianza. En este sentido, el contacto físico y real no es sustituible por la mediación de las pantallas. Por otra parte, en los centros educativos se debe seguir educando para el buen uso de las tecnologías, un uso ético que evite el ciberacoso e incida en el uso colaborativo y gratificante de las herramientas digitales.

Fe. El desarrollo de la humanidad ha estado guiado, entre otras cosas, por la superación de las limitaciones humanas para conseguir los objetivos que los hombres y mujeres se han propuesto a lo largo de los siglos, tratando de encontrar soluciones a los problemas y desarrollando tecnologías cada vez más sofisticadas para ello. De este modo hoy disponemos de máquinas como satélites que nos permiten comunicarnos desde cualquier lugar del planeta, dispositivos con los que realizar videoconferencias, aplicaciones que nos indican cómo llegar a cualquier sitio, inteligencias artificiales en diferentes soportes capaces de aprender de modo indefinido. La educación debería fomentar la fe en la capacidad humana para construir un futuro cada vez mejor, más ecológico, más ético, superando el egoísmo, y valorando la cooperación y colaboración entre las personas a través de las tecnologías, e incluso entre personas y máquinas como un medio para seguir avanzando hacia nuestros ideales.

Esperanza. El futuro está por escribir, el desarrollo tecnológico tiene su propia dinámica y la robótica, la domótica, el internet de las cosas, la inteligencia artificial… van a ocupar cada vez más espacios en nuestra vida cotidiana, pero desde la educación se debe apelar a la dimensión más humana de la tecnología. Debemos implicarnos en visualizar una sociedad donde las máquinas y avances tecnológicos proporcionen ayudas y recursos para el aprendizaje y el adecuado desarrollo socio-afectivo de todas las personas, de forma inclusiva, facilitando el desarrollo de todo tipo de inteligencias y potencialidades. Un futuro donde el desarrollo tecnológico se guíe más por las necesidades de las personas y menos por factores puramente económicos.

En resumen, el desafío que se presenta a los educadores en estos momentos es enorme, y tiene que ver con la reivindicación de las virtudes de nuestra cultura para seguir apostando por una educación emancipadora; lo que supone, en muchos sentidos, ir a contracorriente de las tendencias que podemos observar en diferentes ámbitos de nuestra sociedad.

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CIVIC AND CITIZENSHIP EDUCATION IN A CHANGING WORLD. THE ROLE OF TEACHERS AND SCHOOLS IN A DIGITAL ERA

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Quoting the Italian jurist Piero Calamandrei, we can rightly say that school is a *constitutional body*. A place where, at least in our expectations, it is possible to remove obstacles, to fight inequalities and to assign value to individual differences. In sum, a school open to all and for all. As always, it is quite difficult to translate in practice general principles, as constraints and lack of resources can play an important role in downgrading the prospects. There is undoubtedly a gap between what school can rightly promote and what is actually conveyed, particularly when it comes to civic and citizenship education.

In the last decades, there has been a widely shared concern on the possibility of countries to foster the democratic citizenship development of their citizens, present and future. Print (2007) argued that "established democracies face a conundrum that challenges their very legitimacy". On the one hand, major Western democracies agree on the importance of fostering engagement and political participation, on the other hand, in the same democracies a significant decreasing of citizens' participation can be retrieved.

To this already complex picture, another dimension must be added, the one descending from the rapidly evolving digital world, that offers its own specific ways to be student and citizen. At least three possible ways to define digital citizenship can be retrieved in recent scientific literature (Cortesi et al. 2020):

- a normative perspective, that focuses on the need for young generations to correctly use digital technologies, following their values and norms

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- an economic and political perspective, that focuses on the skills needed to use technologies for personal economic gain, i.e. in the workplace
- a social and political perspective, that focuses on how young people tend to engage with civics and politics in different ways with respect to previous generations.

More in details, the framework for Digital Citizenship Education promoted by the Council of Europe envisages ten Key Domains[1] grouped in three areas:

- Being online (Access and inclusion, learning & creativity, media and information literacy)
- Wellbeing online (Ethics and empathy, Health and wellbeing, ePresence and communications)
- Rights online (active participation, rights and responsibilities, privacy and security, consumer awareness).

Still, some complicating elements remain to be clarified. Given the pervasive presence of digital devices, the specification *digital* citizenship it is controversial, sometimes made in order to differentiate it as a form of CCE of diminished importance. However, there is the questionable idea that young people could actually perceive this difference when referred to themselves, being immersed in technology in almost every aspect of their life.

Several studies at national level have been carried out to shed light on these topics. In this essay I will try to offer an overview of the results of the IEA-ICCS 2016 large scale assessment study (International Civic and Citizenship Education Study), carried in 21 countries and 3 national entities. Results focus on planned and implemented learning opportunities to prepare students as active and informed citizens along with contextual factors assumed to be related to educational outcomes (Schulz et al. 2016; 2017).

In order to grab the essence of these kind of studies, we need to make a step back and to get to their origins. Early International Large Scale Assessment (ILSA) studies were promoted, among the others, by Benjamin S. Bloom, a well-known American educational psychologist that proposed the idea that educational systems could be seen as giant "experimental laboratories", in which different treatments were applied in terms of national curricula, teaching methods, and classroom practice. Comparing these three levels across countries, namely the intended curriculum, the implemented and the attained one, could provide information on the *opportunity to learn* that students had in each national context. After the first attempts on Mathematics, the IEA Six Subjects Study (1967-72) included also an in-depth study on Civic Education.

[1] For further reference: https://www.coe.int/en/web/digital-citizenship-education/home (03/04/2021).

From the Seventies up to now four studies on CCE have been completed and one of them, ICCS 2022, is currently in its field trial phase.

The focus of these studies has been differently detailed across cycles assuming various meanings according to the relevant issues debated. In ICCS 2016, *civic education* refers to "the principles, mechanisms, and processes of decision-making, participation, governance, and legislative control" (Schulz et al. 2016). that take place in any community that shares connections at a broader level than the family. The definition is more oriented toward knowledge, whereas the notion of citizenship is dispositional and it includes attitudes, values, and beliefs linked to the legal status of being a citizen of a nation state, the individual participation, the citizenship identity or sense of belonging to different levels of community, from local to national or to supranational. The two levels are strictly connected, as without civic knowledge and a disposition to engage, it is can be challenging to practice citizenship.

The development of an ILSA is a lengthy process that requires several specializations. The first step is the development or the review of an assessment framework (Schultz et al. 2016), which includes proposed new areas, and / or changes to existing constructs according to the analysis of literature and previous studies. This theoretical activity is followed by a qualitative research activity that includes carrying out few focus groups and interviews in schools with teachers, students and principals that accompanies the construction of the first version of the survey instruments. The set of questionnaires is then proposed to an external expert committee and to national survey coordinators for feedback. On this feedback, survey instruments are reviewed and further informal try outs are carried out in some local contexts. Once refined, the field trial instruments are translated in the different languages of the participating countries. A complex translation verification process is put in place, with the use of counter-translations from the English version to the national language/s version/s and then back to English, in order to guarantee the maximum adherence to the original instrument and to allow comparison. The Field trial phase lasts about a year and it exactly reproduces what will be the Main study phase, anticipating and solving every possible inconvenience, from sampling to data entry (in case of paper and pencil administration) and to the data cleaning procedures. On the basis of the data collected a set of statistical analyses are carried out to verify the robustness of the scales, their validity and reliability with respect to the constructs targeted by the study. Results are presented both to the external experts' committee and to national coordinators, in order to agree on revisions to survey instruments for the Main study. Similarly, also the main study lasts about a year. It is carried out on a different sample from the field trial and it is followed by the same analysis and review procedures.

Last completed ICCS cycle took place in 2016. The study was carried out by the Australian Council for Educational Research, IEA Data Processing Center in Germany and Roma Tre University.

Domains considered in the study were, other than Student's civic knowledge, also students' attitudes and engagement, and contextual data related to classroom, school, family and community.

The study involved over 94,000 13-14 years old students, and 37,000 teachers that were surveyed using different instruments. I had the privilege to work to the development of the questionnaire addressed to teachers and school principals. Several educational systems in bold participated both in ICCS 2009 and in 2016.

Other than the implementation of CCE at school, ICCS casts a light on students' participation in different contexts, both school and community and if and to what extent the school contexts relate to students' outcomes, in terms of knowledge, attitudes and involvement.

All over the participating countries, 35% of students is on the highest level of the civic knowledge scale. A student reaching the top level is for instance able to justify the separation of powers, whereas at level B he is able to generalize the economic risk deriving from globalization, and so on, until the level D where simply students can recognize that all people are equal before the law or similar kind of knowledge (Schulz et al. 2017).

Top performing countries, well above the international average score, are Denmark, Chinese Taipei Sweden and Finland. But this is probably the less interesting information to consider. This especially because variation of civic knowledge can be found both within and across countries, and it is possible also to have a trend in levels for those countries that participated both in 2009 and in 2016 study. There was a general increase in civic knowledge across countries, even if not for all the countries. For some of them, and Italy is an example, there was no statistically significant difference between the two cycles.

In addition, ICCS offers also a repertoire of results concerning students' habits at home, with peers and families. For instance, watching news programs on TV is a less relevant habit, as in 11 of the 18 countries that participated in both ICCS cycles, and the same applies, more evidently to reading articles in newspapers (16 countries). On the other hand, talking to parents about what is happening in other countries has happened more frequently since 2009 in 12 countries.

With reference to the use of resources from the Internet, there is probably a lower percentage than expected (31%) and a low direct involvement in political engagement through social media, i.e. posting a comment or image on political and social issues on the Internet or social media (9%) or commenting

on or sharing another person's post regarding political and social issues (10%). However, the engagement was higher for those who generally expressed interest in civic issues I all countries.

With respect to future young voters, ICCS provides us with a comforting picture: students expect to vote in local and in national elections (86%) and more importantly to get information about candidates before voting in an election (81%) in a quite large percentage.

In this general picture, it could be worthy to understand the role that teachers can have in developing CCE. One predictor, consistent across cycles, is the construct of the "open classroom climate" (Torney-Purta et al. 2001), which is composed by classroom management factors, and the possibility for example for students to freely express their opinion during classes. This of course has a lot to do with how classes are run, on how the topics and controversial issues are presented and if they are actually presented in their complexity and different possible perspectives on to students.

Among major civic knowledge predictors, there is also the socio-economic background of students. This element is confirmed unfortunately by almost all ILSA, irrespectively of their subject area. However, a distinctive feature of CCE is the possibility of enhancing its development through open climate for discussion of political and social issues. The role of female students should also be taken into account, as they usually tend to have higher levels both of civic knowledge and civic engagement.

These kind of studies are rich in information and it is not possible to present them all here. Nonetheless, there are some implications for educational policies that should be considered. Even though different approaches in delivering CCE at school are present, a relatively high degree of consensus among teachers and school principals that the most important aims of civic and citizenship education concern the promotion of students' knowledge of citizens' rights and responsibilities and development of critical thinking. Moreover, cross-nationally, about half of the teachers saw promoting respect for and safeguarding of the environment as a key objective of this learning area.

Trends shows higher levels of student engagement in discussion about political and social issues, and this also applies to confidence in civic participation. But it is worth noticing that civic engagement is negatively associated with civic knowledge and expectation of active political participation, and this could be an area for further investigation.

Future prospects are generated both from the use and consideration of data collected. All results and databases produced by the study are freely available for researchers. The Joint Management Committee of the study, together with National Research Coordinators is currently working on ICCS 2022 field

trial. Undoubtedly, these data can contribute to shape the future of our educational systems and ultimately of our societies.

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THE RENEWED HUMAN DIMENSION OF THE SCHOOL IN THE DIGITAL ERA

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Abstract

Recent advances in digital technologies, algorithms, and machine learning cause both excitement and concern. Excitement, because they offer a world full of social and economic promise. Concern, because they can result in immensely harmful effects. Our schools play a core role in preparing the next generations for this transformation, but the territory is uncharted, and no one knows how to explore it. This article attempts to lift the veil on the issue by proposing a conciliation between the cultural appropriation of digital technologies and the renewal of the human dimension in schools.

Keywords: algorithms, culture, digital transformation, education, human values, reading, schools, technologies.

Resumo

O progresso recente das tecnologias digitais, algoritmos e aprendizagem automática é hoje motivo de grande excitação e preocupação. Excitação, porque oferece um mundo de promessas sociais e económicas. Preocupação, porque pode produzir efeitos imensamente prejudiciais. As nossas escolas desempenham um papel fundamental na preparação das próximas gerações para esta transformação, mas estamos em território não cartografado que ninguém sabe como explorar. Este artigo tenta levantar o véu sobre a questão propondo uma conciliação entre a apropriação cultural das tecnologias digitais e a renovação da dimensão humana nas escolas.

Palavras-chave: algoritmos, cultura, educação, escolas, leitura, tecnologias, transformação digital, valores humanos.

1. Introduction

The progress of digital technologies has captured the imagination of many educational reformers who believe that education should be more centered on technology. This view recognizes that we live in a

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world dominated by technology but overlooks that technological progress also creates unpredictability, complexity, social injustice, and chaos. The new generations must learn to take advantage of technology, but they must also be able to put it at the service of human values and avoid its harmful effects. Meanwhile, the pandemic has shaken the foundations of our civilization and exposed the weaknesses of our institutions, namely our educational systems, which call on us to rethink them from the ground up. This presentation argues that we can achieve this renovation by reconciling the cultural appropriation of technologies with the renewal of the human dimension in schools.

2. Digital Transformation

Digital transformation, a management buzzword used to describe the organizational and cultural changes sparked by the widespread use of digital technologies, seems to be finding its way into education. The idea of transforming education through technologies is of course overblown, but it seems helpful as a scenario to reflect on the future of education. What role should the schools play in preparing the new generations for a world transformed by digital technologies? Should the schools be transformed to accommodate the pedagogical and organizational opportunities afforded by digital technologies?

These interrogations lead to further questions. What citizens should the schools be developing? Should the schools predominantly prepare the digital technologists of the future? Or should they develop a generation with strengthened culture and ethics, capable of facing the disruptions of our planet and the growing social complexity and uncertainty of our times? Should the new citizens be mainly driven by concerns of effectiveness and efficiency, or should they care for human values, collaboration, solidarity, empathy? Should the new school be more technological, or should it be more human?

Most of our schools still follow an organizational and pedagogical model inspired by the pattern of the 19th-century industry. The rows of desks, the inflexible teaching times, the artificially separated subjects, the rigid curricula, the cultivation of subjects out of context, the memorization and reproduction of facts, the acquisition of knowledge with no visible application, the isolation and competition of schoolwork have shaped the schools to a worldview of machine-like uniformity, effectiveness, and efficiency. Fortunately, the teachers can thwart the coldness of the model and build a school with room for emotion and human warmth. They do so, however, strongly limited by organizational principles of effectiveness and efficiency that have little to do with human values. The main risk of a digital transformation inspired mainly by the machine-like principles of efficiency and effectiveness is that it may end up replacing the mechanical inhumanity of the 19th century, against which the most eminent educators of the 20th century have raised their voices, with digital inhumanity of the 21st century. How can we replace this transformation devoid of human qualities by a transformation that reconciles technology with humanity?

3. Human Transformation

I propose that, instead of building a digital transformation of the school, we build a cultural and human transformation of the school — a transformation supported by technology, because technology belongs to our times, but a transformation that goes far beyond the instrumental use of technology, to become a deep cultural and pedagogical reform.

From an anthropological point of view, instrumental approaches tend to be primitive and shallow. Our cave-dwelling ancestors spent millennia trying to figure out how to explore their primitive tools, but they only stepped up openly into civilization when they incorporated those tools into the cultural practices afforded by the invention of agriculture. Our children will likely remain culturally and technologically underdeveloped if we keep training them just for the instrumental use of technology and fail to help them incorporate technology into enriched everyday cultural practices.

4. The Rational *vs* Relational Worldviews

Our era is characterized by two worldviews: a rational worldview and a relational worldview (Birhane, 2021). The rational worldview, of positivist inspiration, largely dominates our times. The relational worldview, of phenomenological inspiration, is slowly starting to stand out as an alternative.

The rational worldview believes in a world of predictability, stability, order, separation, and uniformity, a world without emotions, inspired by machines and technology. The relational vision believes in a complex world with plenty of uncertainties, a world of diversity, connection, interdependence and dynamic relationships, inspired by life itself and by nature. If we want to transform our schools, we must decide which worldview we value most. Do we want a rational, computer-based, digital school? Or do we want a relational, organic, human school?

In the last years of the 20th century, when Edgar Morin was invited to dream the school of the 21st century, he advocated a relational school where the fragmented knowledge of our times could be reconnected and made capable of responding to the growing complexity of our world (Morin, 1998). He also called for a school concerned with the human condition, the identity of the Earth, the recognition of uncertainty, the need for mutual understanding, and the imperative of ethics for the human genre (Morin, 2001).

The rational worldview disregards these minutiae. When faced with complex problems, it develops mathematical and computational formulations where the variables that cannot be expressed

computationally are excluded as negligible. By removing these variables, it often takes away the human, social and ethical richness of the problems. When developing an algorithm or establishing a data model to assign medical care, prevent crime, or decide who benefits from social assistance, the removal of the "negligible" variables removes from the solution the most fragile populations, or treats them badly, and favours the most privileged. Algorithmic injustice is already one of the most burning issues of our times (Birhane, 2021).

5. Algorithmic Injustice

This state of affairs is dangerous because most of the big decisions of our times, affecting whole populations and the entire world, are increasingly made by algorithms. On one hand, most of the transparency of the training procedures underlying these algorithms cannot be scrutinized. On the other hand, we are becoming more and more unaware of the interests and criteria that lay behind the construction of the data sets (O'Neil, 2016).

What does this have to do with the schools? It has everything to do with the schools because it is in the schools that the workers of this transformation are educated. If we develop highly competent experts in technology who are indifferent to ethics, human values, and the social complexity of today's world, we will be building a world where no one will want to live.

Google's recent dismissal of two of its most prominent specialists in algorithm ethics who denounced the ethical violations of their company's algorithms (Silverman, 2021) is eloquent in showing the risks we run if we keep educating amoral generations of technologists to serve soulless masters and fail to prepare people who are culturally capable of counteracting their abuses. The same can be said about the recent confession by one of Facebook's top algorithm developers that he is unable to fix the wrongs of his contribution to the spreading of misinformation by his company (Hao, 2021).

6. Back to the Present

These concerns relate to our collective responsibility towards the future, but the list of our duties towards the present, which the pandemic has made even more visible, is staggering. How can we overcome the lack of equity in today's schools? How can we create a more autonomous and self-disciplined generation of learners? How can we strengthen the persistence of our younger generations? How can we encourage their ability to think critically? How can we stimulate their creativity? How can we foster a deep sense of ethics? How can we develop engagement and passion?

All these problems can be solved by proper education. Do we want to solve them? Or do we prefer to sweep them under the carpet with the argument that we are too busy preparing for the challenges of digital transformation?

7. The death of Reading

To illustrate how far we have gone in developing poor educational practices, it makes sense to focus on one of the most deeply rooted in our schools: the tradition of transforming the written words of the textbook into the spoken words of the teacher, thus freeing the students from the effort of reading on their own, to learn.

The result is that the students get used to believing that learning does not require autonomous thinking and that they just need to listen and carry out the exercises assigned by the teacher. The normalization of this practice leads to the assumption that they do not need to be proactive to learn: the teacher is supposed to teach them. They also get used to trusting that they are not supposed to confirm for themselves the truth of what they are learning: the truth is what the teacher tells. In this way, learning becomes the act of believing in what they are told, and once they realize how comfortable this is, it is impossible to talk them out of it.

This practice, criticized by Mortimer Adler (1954) in *How to Read* and derided by Jacques Rancière (2004) in *Le Maître Ignorant*, discourages the habit of reading, generates laziness of thought, and deters reflective reading and critical thinking. Today's citizens do not master critical thinking because they do not develop it autonomously through reading.

The habit of believing in what the teachers say can also turn into the habit of believing in what anyone says with convincing finality. Our teaching practices can thus become major inductors of the acceptance of fake news and alternative truths by the younger generations.

8. The Cultural Challenge

Despite forty years of using digital technologies in schools, our educational practices have hardly moved beyond the instrumental stage of learning how to use them to achieve dispersed ends. They were never able to generate genuine cultural appropriation. Like our prehistoric ancestors in the early days of agriculture, who only jumped into civilization when they culturally assimilated technology into the agricultural practices, we must culturally appropriate the use of technology in education. How can we do this?

Two main categories of digital technology are currently used educationally in our schools: personal computers and programmable micro-controllers. Personal computers have been used in schools since the early 1980s, emphasizing the education of the ordinary computer user. The exploration of micro-controllers, such as the Arduino, emphasizes the development of the future computer expert. It is now a popular solution for developing programming skills and designing computer-based solutions. Both these approaches are important, but it is clear today that neither has succeeded in going beyond merely instrumental use to promote cultural transformation.

Cell phones have remained conspicuously divorced from this reality. In the early 2000s, when they started showing up in the hands of some students, they were quickly banned, as causes of disturbance and conflict. Despite this rejection, some exploratory projects emerged in a few schools, and UNESCO even published, in 2013, a guide encouraging their use in education (Kraut, 2013). Despite this incentive, the technical limitations of the traditional cell phones of that period precluded their adoption in regular education.

In the last two years, however, the price and technical specifications of smartphones and their widespread adoption in daily life radically transformed their potential as learning tools. We can now buy for just over 100 euros, even without discounts, smartphones with high-quality cameras, large screens, and substantive amounts of RAM and working memory. On the other hand, the statistics tell us that the use of smartphones by the school-age groups has now become almost total. In Portugal, according to *Marktest*, a market analysis company cited by the *Marketeer* magazine in August 2018, smartphone use was over 99% among young Portuguese between the ages of 10 and 24 (Almeida, 2018). In the UK, the numbers disclosed by *Statista* for 2019 indicated rates of 97% for children in the age range of 12-15 years (O'Dea, 2020).

A smartphone can be used today for almost everything. It is a book, dictionary, encyclopedia, library, photo camera, photo lab, video camera, movie studio, classroom, graphic arts workshop, text and image scanner, newsroom, meeting room, museum, scientific and graphics calculator, mathematical environment, database management system, word processor, spreadsheet, communication tool, measuring instrument, simulator, biological data collector, plant and animal identifier, disease diagnosis kit, map, atlas, compass, GPS locator, navigation tool … The list is endless.

A fourteen-year-old child who travelled to an unknown planet carrying a smartphone in her pocket to perform these functions would be seen as a prodigy. Even on our planet, a child who uses a smartphone for these functions can be a prodigy — if she knows how to use it! But does she know how to use it skilfully? Where did she learn? As the schools do not develop these skills, the children who obtain them at home become prodigies, and the less favoured children who cannot get them at home will never

become prodigies. The mere existence of smartphones creates inequalities that only the school can solve.

Another aspect to bear in mind is cybersecurity. Shouldn't the school develop the child's cybersecurity skills? Does it make sense to teach the safe use of smartphones without integrating them in class? If it does, how can the school teach cybersecurity? Through lectures and slide projections?

The cell phone has become the single most powerful personal connection between human beings and the world. This means that if the school fails to inscribe the smartphone in its practice, it risks reducing its relevance as a means of learning about the world. As much as it pains us to recognize it, our genuine access to the world is achieved today more and more through smartphones and less and less through the practices taught in schools. Even when we need to confirm our identity before official and non-official services, we must increasingly do it by using the smartphone.

What about personal computers? Unlike smartphones, which have been culturally assimilated into everyday life, personal computers are used in schools as mere instruments. They do not promote, and they could not promote, a cultural appropriation of digital practices because for most people they are not part of regular, intensive, and permanent social practices. The only instrument lending itself to full cultural appropriation, because it is personal and it is integrated into everyday life, is the smartphone. It is, indeed, the only universal personal tool for digital literacy, whether used by children, adults, or elderly people.

It is ironic to notice that many of the difficulties we experienced when the pandemic forced the school to migrate to the online space would have been avoided if our school children had already become prodigies with smartphones in their pockets. Even if some of their equipment were limited and access conditions problematic, a massive purchase of smartphones and Internet accounts would have been much cheaper and easier than the chaotic acquisition of personal computers whose maintenance quickly turns out problematic.

This is one of the lessons we should learn from the pandemic: the need to urgently build a path of cultural appropriation of the smartphone for pedagogical practice. This appropriation will not be easy or quick. It involves a very ambitious project of renovation of the curricula and the school practices around the use of smartphones. In some areas of knowledge, such as mathematics, there is a lot of work done, with powerful solutions such as Wolfram Alpha already available. In other areas, there is some valuable international work that must be improved and made more practical. In many areas, however, we will have to start from scratch. It is no doubt a difficult task, but also an exciting one because it opens up perspectives for a deep cultural transformation of the school practices.

9. Epilogue: A Human Transition With Technologies

The misuse of distance learning technologies during lockdown has created a wave of rejection of online technologies and a strong call for the benefits of face-to-face social relationships in schools. True enough, the lack of social contact had a vastly negative effect on the emotional balance of the children and their personal development. However, it was not the social contact with their fellows inside the classroom that they missed most. What they missed most, regarding their fellows, was the social contact with them in the playgrounds and spaces adjacent to the school. What they missed most was playing together.

They did not miss much the social contacts inside the classroom because they hardly exist, especially when there are twenty or thirty students in a small room and nowhere to split them into groups. For practical reasons, traditional classrooms can hardly explore the pedagogical virtues of social relationships. Paradoxically, the only comprehensive way of exploring social relationships in education is online.

Online, the opportunities are endless. The teacher can split the class into breakout rooms, a few students to each room, and the students only come together at agreed times for plenary debate or collective synthesis. The same goes for projects, which can be split between student groups following the principles of project-based learning, so that the students only come together later on to build and refine the result.

This complementarity between face-to-face and distance learning cries out for integrated pedagogical approaches that smoothly extend the face-to-face school to the distance. Unfortunately, we waste years in endless debates about the advantages of one over the other instead of working hard to make them work together naturally.

What the students missed badly from face-to-face classes during lockdown were not the social relationships with their colleagues. What they missed most, which could genuinely transform their lives, was the role model and empathy of the teacher and the passion the teacher could instil in their minds. No technology can outperform this attribute.

Regarding the role of the teacher, the challenges of extending the classroom to the distance are paramount. In the face-to-face classroom, the teacher can smoothly scan the room with her eyes and see, like the experienced photographer, everything that no one else could see: the body language, the sparkle in the eye, the doubt, the perplexity, the withdrawal. Her affective attachment to the class is largely born out of this physical and emotional closeness.

In online space, none of this happens. The anxiety, the indifference, the insecurity, the withdrawal, are there, but nobody sees them. Can we change this? Like the friend who cheers us up in a difficult moment by just being there, without saying a word, the distant teacher should aspire to that magic: "be there!", not in body, not on the screen, but in spirit. Sometimes, all it takes is a two-line email message, a word of encouragement, an unexpected phone call saying: "I liked your work!" This illustrates the challenges we face if we wish to transform education for the times we live in. An education that reconciles humanity and technology.

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Education inclusive et nouvelles technologies: l'enseignement à distance au service du développement intégral de l'étudiant?

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Abstract

In the context of the global health crisis caused by COVID-19, the issue of distance learning, while not new, has nevertheless become a common issue in the pedagogical continuity we have had to ensure for our students. Based on the faculty project Inclusive Educational Community, in which our teaching, training and research activities are embedded, we present the paths and challenges posed by distance learning with regard to the integral development of the student in a university community.

Keywords: inclusive education, online learning, integral development of the student, educational relationship, COVID-19

Résumé

Dans un contexte de crise sanitaire mondiale due à la COVID-19, la question de l'enseignement à distance, si elle n'est pas nouvelle, s'est toutefois imposée à tous lors de la continuité pédagogique que nous avons dû assurer pour nos étudiants. En partant du projet facultaire Communauté Educative Inclusive dans lequel s'inscrivent nos activités d'enseignement, de formation et de recherche, nous présentons les pistes et les défis posés par l'Enseignement à Distance au regard du développement intégral de l'étudiant dans une communauté universitaire.

Mots clés: éducation inclusive ; enseignement à distance ; développement intégral de l'étudiant ; relation éducative ; COVID-19

La question de l'enseignement à distance, si elle n'est pas nouvelle, s'est toutefois imposée à nous lors de la continuité pédagogique que nous avons dû mettre en place au printemps 2020 pour faire face à la

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crise sanitaire mondiale de la COVID-19. Plusieurs questions se sont alors présentées éclairant d'un jour nouveau les questions essentielles liées à l'enseignement, qu'il s'agisse de la transmission et du rapport au savoir, de la relation pédagogique, ou encore de la communauté d'études académique, faisant apparaitre de façon criante la place que nous avions à tenir quant au développement intégral de l'étudiant dans une communauté désormais digitale.

En partant de notre expérience d'enseignants et de formateur chercheurs de la Faculté d'éducation de l'Institut catholique de Paris, nous souhaitons partager les questions relatives à la prise en compte du développement intégral de l'étudiant qui se sont posées dans un contexte d'enseignement à distance, qui pose également la question dans ce cadre de l'accompagnement des étudiants en situation de handicap dont nous avons la charge. Dans une première partie, nous présenterons notre institution et le projet facultaire dans lequel nous nous inscrivons aujourd'hui et à partir duquel nous posons la question de l'enseignement à distance au service du développement intégral de l'étudiant. Nous verrons ensuite dans une seconde partie comment nous avons pensé et travaillé cette question de l'enseignement à distance pour tenter une continuité pédagogique face à la crise sanitaire que nous connaissons depuis le printemps 2020. Ce qui nous permettra d'entrer en troisième partie dans les questionnements qui se sont imposés quant au développement intégral de l'étudiant dans un contexte d'enseignement à distance.

1. Communauté éducative inclusive : un projet facultaire qui place la question de l'inclusion au cœur

1.1. L'Institut Supérieur de Pédagogie-Faculté d'éducation (ISP-FE) de l'Institut Catholique de Paris (ICP)

L'ISP-FE de l'ICP est une institution qui se préoccupe des questions pédagogiques depuis plus d'un demi-siècle, avec une approche centrée sur l'apprenant et les pédagogies actives. Une première entité dénommée "Institut supérieur de pédagogie" est créé en 1941 et dirigée par le Père François Chatelain. Ce dominicain, titulaire d'une thèse en philosophie et en théologie et présentant un intérêt particulier pour les questions de psychologie et de pédagogie, est un fervent partisan des pédagogies actives. Il s'est formé notamment à l'Institut Jean-Jacques Rousseau de Genève, premier institut des sciences de l'éducation et haut lieu de l'Education nouvelle fondé par le psychologue Edouard Claparède et ses collègues en 1912, et au sein duquel Jean Piaget notamment inscrira ses travaux sur la psychologie du développement. Chatelain participe tout d'abord à la création d'un institut de formation des enseignants à l'Université catholique de Lille, avant d'être appelé en 1942 à l'Institut catholique de Paris par le vice-recteur Monseigneur Bressoles qui avait, dès 1941, regroupé "les enseignements, conférences publiques ayant trait à l'éducation et à la pédagogie en un "Institut supérieur de Pédagogie" (Pierre Faure, 1975, p.287). L'inscription de Chatelain dans le mouvement international de l'Education nouvelle et son alliance avec l'inspecteur de l'Education nationale Roger Cousinet, promoteur notamment du travail libre par groupes (Cousinet, 2011), montrent son implication dans une approche réformatrice des idées

et des pratiques pédagogiques, qui sont pensées pour mettre l'enfant au cœur du système effectuant en cela une "révolution copernicienne" de l'enseignement pour reprendre les mots de Claparède. L'approche pédagogique des deux pédagogues sera développée dans le cadre de *l'Ecole nouvelle française*, mouvement publiant une revue du même nom à partir de 1945 au sein de laquelle Chatelain développera les dix principes de l'éducation nouvelle donnant la vision d'un éducateur ayant "une vision juste de l'enfant", qui soit un "entraineur" plutôt qu'un "enseigneur", engageant "l'école en pleine vie" et faisant de la classe "une vraie communauté enfantine" (Chatelain, 1950). Cette vision d'une autre école tenant compte de l'enfant dans sa globalité s'incarnera dans l'école nouvelle *La Source* que les deux pédagogues créent ensemble en 1946.

L'attitude réformatrice de Chatelain, son alliance avec un inspecteur de l'Education nationale et la création d'une école privée laïque vont participer à son éviction de l'ISP, au profit de Pierre Faure : "sa hiérarchie lui préfère le jésuite Pierre Faure plus à même, selon elle, de prouver les fondements théologiques de cette éducation nouvelle" (Gutierrez, 2014). Le Père Pierre Faure, chargé de cours de plus en plus nombreux, va pouvoir développer son approche personnalisée et communautaire qui va également marquer l'ISP d'une empreinte résolument axée sur le développement intégral de la personne. La pédagogie est personnalisée car elle permet à chaque enfant de se construire libre, responsable et conscient, tout en étant une pédagogie communautaire "car il n'y a pas de personne qui ne soit en relation d'attention à autrui", comme le rappelle J.M. Le Connétable dans sa thèse consacrée au Père Faure. Cette approche pédagogique favorise ainsi l'inclusion en rompant avec une certaine rigidité des programmes et en ce qu'elle permet l'accueil de tous dans la diversité (Le Connétable, 2019). C'est dans cet ISP qu'est envisagée, à la demande de Mgr Blanchet, une formation pour le secteur de l'enfance handicapée, ancêtre du département éducation inclusive dans lequel deux d'entre nous exerçons aujourd'hui. En 1963, ce premier ISP organisé en cinq sections se scinde en différentes branches dont l'une garde le nom. Daniel Hameline y entre en 1966 et en assure la fonction de directeur des études aux côtés de Jean Le Pichon entre 1969 et 1971, donnant une nouvelle orientation qui tient en 3 points : la recherche n'est pas séparable de la formation ; la formation initiale n'est pas séparable de la formation permanente ; la formation des agrégatifs n'est pas séparable de la formation des instituteurs. Et il ajoute "Avec ces trois principes, il y a de quoi fomenter une révolution dans le monde cloisonné de l'enseignement. Mais on n'a pas l'illusion de croire une révolution possible dans cet univers-là. Si on peut le faire bouger avant que les événements, de nouveau, ne l'ébranlent, ce sera bien" (Hameline, 2018, p. 42).

L'ISP devient par la suite ISP-Faculté d'éducation en 1998. C'est depuis ce cadre institutionnel riche d'une histoire ayant à cœur la prise en compte du développement intégral de la personne que nous vous présentons nos réflexions aujourd'hui.

1.2. Le projet facultaire Communauté Educative Inclusive

Le projet facultaire porté par le Doyen Augustin Mutuale depuis 2019 s'intitule "Communauté éducative inclusive" (CEI). Basée sur l'éducation pour tous et le principe de l'égalité des droits, la communauté éducative inclusive tient compte de la diversité des besoins et des capacités d'apprentissage et engage à porter une réflexion sur les représentations que l'on a de chacun, de l'autre, de façon à provoquer une prise de conscience et à entrer dans une dynamique de changement quant à l'organisation de l'environnement que l'on propose. En voici une présentation à partir des quatre points développés dans sa charte : identité, enjeux, engagement, perspectives[2].

1.2.1. L'identité d'une CEI

Elle s'inscrit dans une reconnaissance mutuelle et une intentionnalité éducative, l'éducation pour faire accéder l'autre par les pratiques et les discours à un monde commun. Ce monde commun est historique avec la transmission des grands récits qui correspond à notre héritage culturel. Il est aussi celui à conquérir dans le présent par l'appropriation des trésors communs. Il est enfin celui de la promesse qui donne sens à l'utopie éducative pour un horizon collectif. Cette promesse se déploie dans la notion de communauté éducative non d'une manière communautariste, mais comme une volonté de cohérence des actions de ses membres et la nécessité de leur collaboration en vue du bien commun. Cela pose la question de l'intégration de tous, de la solidarité entre les personnes et de la place de chacun dans les dispositifs**.**

Elle s'inscrit dans une communauté plurielle, qui peut être académique, scolaire, associative, familiale…. Notre communauté éducative prend place dans le cadre institutionnel de l'ISP-Faculté d'Éducation de l'ICP. Ses différents acteurs sont les enseignants et formateurs, les étudiants et stagiaires, les administratifs et responsables. Chacun participe ainsi à une communauté identifiée par sa capacité de recherche et d'agir sur l'éducation inclusive, portée par un engagement de transmission de ses valeurs dans la formation des enseignants et des cadres de l'éducation, afin de répondre aux enjeux fondamentaux pour la société de demain.

1.2.2. Les enjeux d'une CEI

Tout humain est éducable. Il s'agit de porter un pari sur l'éducabilité et sur la formation tout au long de la vie : la CEI pose la question du nous, de notre destinée collective, de notre horizon commun. L'accueil doit être une éthique commune, l'accompagnement diversifié doit être adapté aux besoins de chacun. Cela suppose un principe clé en éducation : comprendre l'autre et accepter d'être bousculé par l'autre et de le bousculer à son tour, en tenant compte de la diversité, des résistances et des débats, dans une perspective de respect de la personne et du collectif. Nous mettons en discussion que l'attention à l'autre, quand elle s'exprime dans l'expérience inclusive, ne doit pas se solder par l'expression de pitié,

[2] Téléchargeable sur le site de l'ISP-FE https://www.icp.fr/a-propos-de-licp/decouvrez-licp/facultes-et-instituts/isp-faculte-deducation

ni par la culpabilisation ou par un désir de réparation ; elle est une ouverture à l'autre pour mieux le comprendre et pour s'ouvrir en pédagogie à une créativité au service de l'autre.

Un héritage culturel doit être transmis. Cette responsabilité s'origine dans la Sollicitude qui se pense et s'expérimente dans la dialectique prendre soin et conduire vers, ainsi que dans une relation écologique comme lecture du monde et reconnaissance mutuelle que nous appelons "l'Écorelationnalité" (Mutuale, 2017). Le sentiment d'appartenance à un projet collectif et essentiel est renforcé par l'accueil et l'attitude bienveillante de ses membres, en lien avec l'existence d'une sollicitude où l'important est de faire agir l'autre pour son propre bien-être et celui de la communauté, dans une visée sociétale.

1.2.3. L'engagement, porteur de sens pour bâtir une CEI

Nous souhaitons ainsi contribuer à la fois au développement intégral de la personne et du bien commun, dans le cadre d'une communauté d'études, par la recherche, la pédagogie et la formation, la valorisation de compétences. Notre objectif est d'engager une pérennisation de la politique inclusive et innovante dans notre établissement, et au-delà, par l'intermédiaire de nos étudiants et stagiaires destinés à s'engager dans les métiers de l'enseignement et de la formation. Un tel projet est porté par l'ensemble de la faculté d'éducation, et travaillé entre la pratique et la théorie ainsi qu'en transversalité : entre les départements et les cycles, entre les enseignants et les étudiants, entre les formateurs et les stagiaires.

Pour une vision de la personne tenant compte de ses désirs et besoins, ses capacités et ses compétences, ses difficultés et ses faiblesses, ses forces et ses ressources. Nous proposons un accompagnement pour l'aider à réaliser à la fois son potentiel et son épanouissement, son adhésion et sa participation à une dynamique d'éducation tournée vers le bien commun. Cette éducation inclusive, qui s'inscrit également dans l'engagement porté par l'ICP du développement intégral de l'étudiant, va être travaillée avec tous les acteurs qui composent la communauté universitaire dans les limites et les exigences institutionnelles.

Pour une communauté inclusive, par une diversité sociale et culturelle. Il s'agit d'engager dans un cadre institutionnel un dialogue entre des publics et des cultures différents, dans une confiance commune, au service de la réussite des apprenants. Notre engagement s'inscrit dans notre pédagogie, nos enseignements, nos recherches. Nous ne partons pas de rien, nous nous appuyons sur des collectifs et des dynamiques inclusives déjà existants au sein de notre communauté éducative, qui constituent un maillage entre les acteurs permettant une certaine pérennité des activités inclusives. C'est le cas dans nos recherches portant sur la pédagogie inclusive, et sur les humanités numériques et les innovations éducatives, ainsi que dans nos parcours d'enseignement et de formation qui mettent au cœur le développement de la personne dans le monde qui l'entoure, dans les aménagements pédagogiques proposés à nos étudiants en situation de handicap…

1.2.4. Les perspectives d'une CEI

Une communauté d'accueil personnalisé qui s'ouvre à l'autre, vit avec l'autre, fait vivre l'autre. C'est ce que nous nommons le bien vivre ensemble. Le défi et les perspectives qui s'offrent à nous seront donc de construire une communauté éducative par une cohérence d'actions et des personnes ressources, en développant une identité collective commune en faveur de la promotion de la personne et de la valorisation de sa dignité.

Une communauté d'étude scientifique, qui permette à la communauté de s'ouvrir à ses forces et à ses faiblesses et de faire preuve de pensée critique sur ses propres actions et discours, pour accompagner au plus près de l'excellence propre à chacun.

Une communauté pédagogique bienveillante qui s'inscrit dans une politique institutionnelle qui suppose une sensibilisation des acteurs et la mise en place d'une réflexion et d'un travail ensemble pour résoudre les problèmes posés et développer des actions communes pour le bien-être de chacun et le bien commun.

Ces trois axes développés au sein de la Faculté d'Education au profit des Universités, des établissements scolaires, des institutions éducatives et sociales entendues au sens large, portent sur 3 axes qui parcourent les 3 chantiers que nous ouvrons à partir des verbes d'action : accueillir, enseigner, évaluer. Accueillir dans une hospitalité partagée ; enseigner en présentiel et à distance ; évaluer nos dispositifs, nos enseignements et formations.

Ces chantiers permettent de travailler à partir de collectifs intermédiaires existants et dans l'objectif de faire vivre la Communauté Educative Inclusive à l'échelle de chacun**.**

C'est à partir du chantier Enseigner que nous traitons des questions d'enseignement à distance dans le cadre d'une pédagogie universitaire inclusive.

2. Enseignement à distance et pédagogie universitaire inclusive

Les questions qui se posent avec la spécificité de l'enseignement à distance (EAD) sont multiples et ne sont pas nées avec la crise sanitaire. Avec Sun-Mi Kim, nous pensons qu'un EAD peut être révélateur des questions que pose une réelle pédagogie universitaire qui doit "inventer dans le supérieur des méthodes pédagogiques qui tiennent réellement compte de la faculté singulière d'apprendre chez les étudiants et d'écouter leur remise en cause à la fois du contenu académique trop abstrait et de la relation enseignant-enseigné quasi inexistante" (Kim, 2009, p.8). Entrer dans l'EAD aujourd'hui permet ainsi de se confronter aux défis pédagogiques et relationnels, au défi de la socialisation, et de la participation de chacun à sa mesure au projet commun, dans des espaces et des temps différents. Cela ne doit pas pour autant nous faire occulter la question technologique et des outils numériques à développer pour

entrer dans cette nouvelle ère digitale. Il s'agit de mettre le dispositif numérique au service d'une cohérence pédagogique et d'une prise en compte de la personne humaine. Ainsi que le rappelait déjà Trestini en 2012, "les TIC n'ont pas vocation à structurer les usages mais […] ce sont plutôt les TIC qui sont modelées par les pratiques des usagers" (Trestini, 2012, p.16).

C'est ainsi que nous posons la question de l'EAD au cœur de l'action éducative en 2020, "avec un objectif partagé par tous : ne laisser personne sur le bord de la route. Quelle pédagogie mettre en place, quels outils utiliser, quelles relations garder, pour que toutes et tous continuent à apprendre ensemble et s'approchent au plus près de leur excellence ?" (Serina-Karsky, Mutuale, 2020, p.169).

Nous nous demandons comment rejoindre l'autre aujourd'hui dans un monde en prise au réel et au virtuel, que faut-il et comment mettre en étude notre héritage, notre présent et notre horizon commun ?... Ces questions sont en lien avec le plan stratégique *Universitas* de l'Institut Catholique de Paris qui s'inscrit dans une institution "soucieuse de former les acteurs d'un monde plus solidaire et plus humain" et qui propose "une vision intégrale de la personne humaine dans l'ensemble de ses dimensions"[3]. La question de l'inclusion, que nous voyons d'une manière positive, est une question commune à l'ICP et à sa Faculté d'éducation : comment permettre la réussite de toutes et tous et l'atteinte de chacun à sa propre excellence ? L'EAD n'est pas une relation simplement formelle avec l'étudiant. Il nous amène à définir une véritable relation à distance pensée dans un univers où l'espace est différent, le rapport entre l'intime et le commun se mélange, et où la question de faire classe avec tous y compris les étudiants à besoins particuliers se pose.

Il s'agit d'inscrire notre démarche dans une réelle dynamique pédagogique qui permette de repenser nos fondamentaux en présentiel au regard des perspectives qu'ouvrent le distanciel et les nouvelles technologies tout en tenant au centre la question du développement intégral de l'étudiant, et ce dans une dimension inclusive. "Garantir l'égalité des chances nécessite de mettre en place au-delà des dispositifs techniques, les dispositifs humains et relationnels prenant en compte les besoins cognitifs de comprendre et de mettre du sens, les besoins d'étayage psychoaffectif et les besoins de participation et d'émancipation nécessaires à la réussite de chacun" (Kettani, 2020, p.182).

D'autre part, la question de l'accompagnement à l'entrée dans l'enseignement à distance au moyen des nouvelles technologies se pose pour nos enseignants et formateurs, dont certains se retrouvent démunis. A partir des besoins révélés par les enquêtes, nous avons mis en place un dispositif d'écoute, d'échange et de formation, que nous présentons ici.

[3] Plan stratégique Universitas, https://www.icp.fr/a-propos-de-licp/decouvrez-licp/universitas-2025

2.1. Etat des lieux : forces et faiblesses pour penser l'EAD

Les enquêtes menées auprès des étudiants et des enseignants/formateurs de l'ISP-Faculté d'éducation, alimentées par les réflexions communes ainsi que des échanges avec le Recteur et les vice-recteurs ont permis de faire apparaitre les forces et les faiblesses de l'EAD tel qu'il a été mis en place dans cette situation d'urgence. Les forces correspondent à l'accès à la plateforme EAD et ses tutoriels et à la réactivité et l'accompagnement des services informatiques, mais aussi l'implication et la démarche expérimentale dans laquelle sont entrés les enseignants, les formateurs, le personnel administratif, et les étudiants, la solidarité entre les étudiants. Les revers, les difficultés d'accès à la plateforme pour les vacataires et certains étudiants, le manque d'outils numériques pertinents et variés à disposition, le manque d'accompagnement aux outils numériques, la surcharge de travail pour tous ceux qui se sont impliqués dans cette aventure et ayant entrainé des découragements parfois, une grande fatigue souvent.

Les outils fréquemment utilisés par les enseignants et formateurs ont été les visioconférences pour maintenir le lien, que ce soit en grand groupe ou en petit groupe, enregistrées puis mises en ligne sur la plateforme, les petits films et les séquences de cours filmées avec documents partagés, les partages plus traditionnels de documents et l'utilisation des ressources numériques du Centre documentaire…

Une enquête auprès des étudiants pour la soutenance des mémoires avait pour objectif de mettre en exergue les difficultés qu'ils étaient susceptibles de rencontrer. Elle a permis de mettre en évidence que beaucoup d'entre eux avaient un flux instable, que des questions techniques et de matériel adéquat se posaient, ce sont des choses à traiter au niveau de l'urgence. Mais on a découvert aussi l'angoisse pour l'étudiant de se retrouver seul coupé des autres, l'absence de lieu formel pour se retrouver tous ensemble. Comment rendre l'étudiant autonome dans ce type d'enseignement ? Comment l'accompagner ? Par exemple : le manque de retour et d'échanges personnalisés avec les enseignants nuit à cette relation.

Ces premiers éléments d'enquête sont une base pour ouvrir de nouvelles opportunités et penser l'enseignement à distance sur du court, moyen et long terme.

- A court terme, il s'agit de capitaliser sur les expériences acquises (diverses tentatives d'EAD depuis une dizaine d'années, parcours hybrides depuis deux ans, mise en place de l'EAD pendant les grèves, expériences personnelles de plusieurs années en EAD de certains enseignants...) mais aussi sur le tâtonnement expérimental des enseignants et formateurs qui de ce fait sont tous entrés dans une démarche d'innovation pédagogique.
- Ce qui suppose bien entendu de travailler au moins autant sur la posture de l'enseignant et l'environnement qu'il souhaite mettre en place pour inclure et accueillir chaque étudiant en étant attentif à son bien-être et dans une optique de développement intégral, que de proposer un panel d'outils

numériques et un accompagnement pour leur mise en place. Dans une démarche inclusive, il s'agit également de rendre le numérique accessible à tous les étudiants en proposant des options techniques supplémentaires (ex : lecture à voix haute des documents textes, sous-titrage des vidéos...). Reste posée la question du format de l'accompagnement, il s'agit moins de proposer une démarche personnelle de formation que d'accompagner les équipes pour un EAD de qualité, dans la recherche d'un équilibre entre présentiel et distanciel en vue d'une possible hybridation des formations, et dans le cadre d'une véritable volonté institutionnelle.

- A moyen et long terme, il s'agit d'inscrire l'ICP dans une réelle dynamique pédagogique qui permette de repenser nos fondamentaux en présentiel au regard des perspectives qu'ouvrent le distanciel et les nouvelles technologies. On pourrait s'appuyer sur les éléments des enquêtes déjà effectuées/en cours à la faculté d'éducation et les compléter par des enquêtes dans nos départements et les autres facultés qui n'auraient pas encore entamé cette démarche pour faire un réel état des lieux :
    - sur les formations n'ayant pu être passées em distanciel,
    - sur les problématiques rencontrées par les enseignants, formateurs, personnel administratif et étudiants,
    - ce qui permettrait ensuite de recenser les besoins,
    - puis d'y répondre.

De plus, cette enquête pourrait participer à une réelle recherche action collaborative s'inscrivant dans l'unité de recherche de l'ICP et mobilisant toutes les facultés, portant sur les usages du numérique dans une communauté universitaire inclusive, dans la visée de construire ensemble une articulation équilibrée entre un enseignement en présentiel et en distanciel qui serait le reflet de l'ICP et de ses valeurs dans le monde d'aujourd'hui.

2.2. Perspectives : penser l'EAD dans une pédagogie universitaire inclusive

La rentrée universitaire 2020 a été pensée en fonction de scenarios sanitaires prenant en compte une hybridation des formations, avec des défis à relever tant quant aux aspects techniques et d'organisation des cours, à l'attention à porter à chacun en fonction de ces nouveaux espaces et temps de travail, et à la continuité de la vie universitaire.

Il s'agit d'organiser la continuité pédagogique en tenant compte de la fatigue cognitive, de l'environnement singulier de la personne qui n'est pas le même pour chacun avec des contextes différents. Pour que les étudiants puissent passer du présentiel à une formation hybride, il faut une cohérence pédagogique, que nous devons aborder par le biais de la relation pédagogique, en mettant le dispositif numérique au service d'une cohérence pédagogique et d'une prise en compte de la personne humaine, dans une perspective inclusive : "Ainsi, l'inclusion ne se base pas uniquement sur le fait de disposer des conditions techniques nécessaires à la réussite, mais aussi et avant tout sur le fait d'être

reconnu dans la cadre de la communauté éducative, soit de disposer des conditions qui garantissent la dignité, l'autonomie et le bien-être nécessaires à la construction et à la réalisation de soi, en permettant à chacun de trouver sa place dans la communauté éducative et de s'émanciper à sa manière" (Kettani, 2020, p.181-182).

Car il ne s'agit pas seulement d'adapter les éléments du présentiel à distance, de copier des modèles pédagogiques, de transposer une logique sans réflexion. C'est le moment créatif, d'inventer de nouveaux modèles, qui pose de nouvelles questions : qui est l'autre à distance, comment je parle à l'autre à distance, comment j'établis une relation avec l'autre et tous les autres à distance ? A l'école on évitait cette question et là elle devient criante, où est l'autre en ce moment ? Il s'agit bien dans cette optique de questions de rapport au savoir, de relation pédagogique, et de faire communauté car l'université n'est pas une accumulation de cours privés, mais avant tout une communauté d'études et d'échanges. Or, pour faire une communauté universitaire qui soit une communauté d'études comprenant "relation, communion et partage", les 3 dimensions du rapport au savoir, de la relation pédagogique et de la communauté d'études académique doivent être préservés.

C'est ainsi que nous entendons répondre aux défis que nous pose l'EAD à partir de nos valeurs ancrées dans une communauté universitaire inclusive au service de la personne et du bien commun en misant sur le développement intégral de l'étudiant.

3. Le développement intégral de l'étudiant à l'ère digitale

3.1. L'éducation intégrale

Nous partageons une vision de la personne centrée sur ses besoins et ses ressources, ses compétences et capacités, ses forces et ses fragilités. Nous proposons un accompagnement pour l'aider à réaliser à la fois son potentiel et son épanouissement, ainsi que son adhésion à une dynamique d'éducation tournée vers le bien commun. Il s'agit de développer un sentiment d'appartenance à un projet collectif et essentiel, renforcé par l'accueil et l'attitude bienveillante de ses membres, en lien avec l'existence d'une sollicitude où l'important est de faire agir l'autre pour son propre bien-être et celui de la communauté, dans une visée sociétale. Il s'agit également de tenir compte de la diversité des acteurs composant la communauté universitaire, aussi bien dans leurs "êtres" et dans leurs "devenir", que dans leurs propositions et leurs actions. Ainsi, l'environnement mis en place doit permettre à chacun de se sentir non seulement concerné, mais acteur à part entière. En mettant l'apprenant au cœur du système, notre intention est de développer à la fois une relation pédagogique et un rapport au savoir, mais également des dispositifs pédagogiques nourris de cet esprit de l'inclusion permettant d'amener les uns et les autres à l'excellence qui leur est propre. C'est en ce sens que nous entendons le développement intégral de l'étudiant, et que nous faisons le lien avec l'éducation intégrale telle que la met au travail François Moog. Selon l'auteur, l'éducation intégrale, toujours en cours d'élaboration, est clairement liée à

l'éducation catholique, officialisée notamment par le concile Vatican II, dans sa déclaration sur l'éducation chrétienne de 1965 (Moog, 2020, p.23). Si les termes même d'éducation intégrale peuvent être attribués au pédagogue Paul Robin et l'expérience de l'orphelinat de Cempuis, Moog situe ses fondements chez Jacques Maritain: "Personnaliste, le projet d'humanisme intégral est également communautaire en ce qu'il veut transformer l'ordre social temporel, par la recherche du bien commun.[…] L'humanisme intégral de Maritain se présente alors comme une tâche, un processus, un projet de société fondé sur le double principe de la dignité de la personne et de l'amour fraternel. Ce sont ces deux principes qui constituent les fondements de l'éducation intégrale". (p.28)

C'est en partant de ces bases que nous nous posons de nombreuses questions en lien avec l'EAD. Que va-t-on générer comme éducation intégrale à l'ère digitale ? A quels défis l'EAD peut-il répondre ? En quoi peut-il apporter une contribution à l'éducation intégrale ? Quelles interactions fécondes ?

Concrètement, cela suppose de penser un modèle d'université hybride, pour miser sur une dynamique universitaire pondérée entre le présentiel et le distanciel.

Les points d'attention pour une pédagogie universitaire inclusive dans le cadre de l'EAD portent plus précisément sur : les étudiants et enseignants à besoins particuliers, la fracture numérique, le contexte et l'environnement de vie de chacun, pouvant générer des décrochages tant du côté des enseignants/formateurs que des étudiants, la préservation de la vie communautaire des étudiants et de ses espaces propres. Il est à noter l'ambivalence qu'a révélé l'EAD lors de la continuité pédagogique, qui a permis à beaucoup d'étudiants à besoins particuliers une adaptation à leur propre rythme plus confortable, et à des étudiants "non participants" en présentiel de prendre la parole lors des visioconférences ou des forums. Ainsi, l'inclusion est à penser différemment, dans une tension entre les nouveaux besoins particuliers nés de l'EAD (décrochage numérique par exemple) et la révélation des étudiants jusque-là "cachés". Nous ne sommes plus seulement dans une inclusion des personnes à besoins particuliers, mais de toutes celles aux prises avec de nouveaux besoins particuliers. Il s'agira donc de repérer qui sont ces personnes et quels sont ces nouveaux besoins particuliers.

Ces points d'attention appellent des questions. Quels dispositifs de formation mettre en place ? Quel environnement pédagogique d'apprentissage et d'enseignement ? Comment faire cours, avec quels outils, selon quelle pédagogie, par quels leviers d'accompagnement individualisé, et contextualisé pour faire face à des situations de démotivation des étudiants ? Voici les premières pistes de mise en œuvre que nous avons proposé en cette année universitaire 2020-2021.

3.2. Ateliers d'échanges et d'analyses de pratiques autour de l'EAD : pédagogie, outils, objectifs, questionnements

Notre vision de l'expérimentation pédagogique s'entend comme un moyen et non comme une finalité. En cela, la formation des enseignants et formateurs demande une structure souple permettant d'adopter une démarche réflexive sur : la posture de l'enseignant, son rapport au savoir ; des éléments de culture numérique ; la relation pédagogique ; proposition, analyse, expérimentation d'outils numériques variés afin de garantir la liberté pédagogique du choix et la prise en compte du contexte ; l'alternance de phases de formation et de phases d'expérimentation à coupler avec le distanciel/présentiel.

Des ateliers d'échanges et d'analyses de pratiques professionnelles (APP) sont mis en place pour répondre aux premiers besoins et permettront d'envisager des formations plus ciblées par la suite. Ils sont ouverts à l'ensemble de la communauté universitaire. L'approche permet un travail par petits groupes, avec une pédagogie active, coopérative. Que fait-on, pourquoi le fait-on comme ça, comment évoluer ? En travaillant en coopération, nous souhaitons faire émerger les compétences déjà acquises par les uns et les autres et s'en servir comme levier pour aller plus loin. Ces ateliers sont prévus tout au long de l'année de façon à permettre aux participants de s'inscrire dans un continuum et d'avancer en fonction de leurs différents cours, à partir de thématiques telles que l'organisation d'un cours à distance, la prise en main d'un outil tel que Zoom, ou encore l'attention au bien-être de l'étudiant. Ces ateliers d'échanges sont enregistrés et mis en ligne sur l'espace dédié à l'enseignement à distance sur la plateforme d'EAD à laquelle tous les enseignants et formateurs de l'ICP ont accès.

3.3. Outils numériques et plate-forme d'apprentissage

Une réflexion autour de l'amélioration de la plateforme a permis de la faire évoluer en intégrant un espace dédié à l'accompagnement à l'EAD. Il s'agit de penser l'adaptation de l'environnement numérique aux activités pédagogiques et aux situations d'apprentissage, d'intégrer des outils permettant la mise en place de classes virtuelles, de visioconférences etc.

Cet espace spécifique est également entendu comme un lieu d'échange et de partage d'expérience et de pratiques pédagogiques, d'outils, de littérature scientifique, à partir de différentes rubriques correspondant aux invariants pédagogiques : l'acquisition de savoirs et de compétences, l'évaluation, la relation, le travail par groupe… Ces rubriques seront par la suite alimentées par des capsules vidéo présentant les pratiques dans le champ des innovations éducatives et numériques et répondant aux questionnements universitaires. Ainsi, de premières réalisations ayant été effectuées par les uns et les autres pourront être valorisées : scénarisation des séquences de cours, padlets, échanges sur Zoom par petits et grands groupes, pratiques pédagogiques favorisant les partages entre étudiants (classes coopératives, classes inversées, pédagogie de projet…).

3.4. Observatoire et formation

Cet environnement d'enseignement et d'apprentissage à construire est évolutif. La prise en compte du public d'étudiants, sa contextualisation, suppose un travail sur l'environnement personnel d'apprentissage. Les premières bases ont été posées suite à l'analyse des premières enquêtes effectuées en mai/juin 2020 et seront complétées au long cours dans le cadre d'un observatoire dédié à l'EAD qui permettra de prendre en compte les spécificités liées aux différentes facultés, écoles et instituts de l'ICP. A l'heure actuelle, cet observatoire reste informel et réunit des enseignants des différentes facultés ainsi que du personnel administratif de l'ICP lors de réunions régulières.

Les points d'attention concernent l'état des lieux et les besoins des enseignants/formateurs et des étudiants/stagiaires. Pour les enseignants, quels besoins d'outils, de méthodes de travail adaptées aux cours et aux cycles, quelle évolution apporter aux formations ? Pour les étudiants, quels besoins de vie communautaire, quels risques de décrochage par rapport aux difficultés rencontrées liées aux différents contextes de vie, comment garder la complicité, le regard, l'interaction individuelle avec l'enseignant ? Il s'agit réellement de travailler en partenariat et de concert avec les facultés et en fonction de leurs priorités. Les besoins de formation ainsi repérés permettront d'effectuer un travail d'ingénierie pédagogique pour proposer par la suite des modules de formation adaptés.

Par ce travail en commun, nous entendons faire des contraintes des opportunités pour progresser dans ce monde d'incertitude, répondre aux défis pour garder et déployer une véritable communauté avec les initiatives et la vie étudiantes. C'est en ce sens que nous travaillons en étroite collaboration avec le vice-rectorat chargé des Affaires académiques. Des choses restent et resteront en suspens : comment donner la place au corps dans la distance, comment recréer la complicité de l'enseignant avec un individu dans la classe, les jeux de regards, comment rendre sa place à chacun tout en étant face au groupe classe… Autant de points participant à la force et au déploiement d'une communauté de destin en présentiel.

Conclusion

En partant du projet facultaire Communauté Educative Inclusive dans lequel s'inscrivent nos activités d'enseignement, de formation et de recherche, nous avons défini les pistes et les défis posés par l'Enseignement à Distance au regard du développement intégral de l'étudiant dans une communauté universitaire.

Les enquêtes menées auprès de nos étudiants, enseignants et formateurs depuis le printemps 2020, ont permis de présenter des résultats qui concourent à redéfinir les contours de l'éducation inclusive à la lumière de l'EAD tel que nous l'avons mis en place pendant le confinement et depuis. En effet, certains étudiants à besoins particuliers semblent trouver des bénéfices dans divers aspects de l'enseignement à distance alors que d'autres étudiants non identifiés jusque-là comme ayant des besoins particuliers demandent à être désormais accompagnés, sous peine de décrochage universitaire et/ou de troubles

psychologiques. Ainsi, les dernières enquêtes en cours en janvier 2021 montrent une souffrance psychologique importante des étudiants en situation d'EAD depuis de longs mois et soumis à un isolement due à la crise sanitaire, qui se double d'une précarité due à la crise économique, les deux facteurs conduisant à des décrochages ou des risques de décrochage importants.

Les besoins particuliers ne sont plus les mêmes dès lors que nous nous plaçons dans ce paradigme d'EAD qui vient bousculer notre enseignement traditionnellement en présence et qui semble s'installer dans une durée pour lors incertaine. Ces observations viennent soutenir qu' "inclure, c'est mettre la personne au centre du modèle éducatif, c'est considérer ses besoins particuliers qu'elle soit porteuse d'un handicap ou non, c'est généraliser la notion de besoins éducatifs particuliers à l'ensemble de la communauté des étudiants, c'est penser les spécificités de chacun en termes de différences et non de déficits ou de manques, afin de reconnaître chacun et de préserver la dignité de tous,» (Kettani, 2020, p. 187.

Ces différents éléments participent ainsi à redéfinir tant les termes d'éducation inclusive, de pédagogie universitaire, que ceux d'étudiants à besoins éducatifs particuliers, dans une visée d'éducation intégrale, au service de la promotion de la personne et du bien commun qui "permet donc bien d'unifier les dimensions personnelle et communautaire de l'action éducative" (Moog, 2020, p.168).

Penser une démarche d'EAD en ce sens permet d'entamer une réflexion pédagogique et une reconnaissance du statut du cours à distance, qui ne vienne pas suppléer, ou réparer, l'enseignement en présentiel, mais apporter une plus-value notamment quant à la question centrale de la relation pédagogique. Il s'agit de penser à la mise en place d'un enseignement à distance universitaire, dans le cadre d'une hybridation de la formation en présentiel et distanciel, qui demande discernement et pondération. La démarche entend s'appuyer à la fois sur des outils numériques, des clés pédagogiques et la communauté universitaire existante. L'objectif est de rendre accessible à chacun l'EAD en fonction de ses propres approches et objectifs d'enseignement et d'apprentissage, de ses disciplines académiques, dans une perspective de pédagogie universitaire inclusive au service de chacun.

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