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Front Pages

Athens Journal of Education

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The current issue is the secong of the tenth volume of the *Athens Journal of Education (AJE), published by the Education Unit of ATINER.*

Gregory T. Papanikos
President
ATINER

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The Autonomous Acquisition of Transversal Competencies by Primary School Children through the Use of Pedagogical Scenarios

By Daniel Bosmans[*], Françoise Casciotta[±] & Vincent Fivaz[°]

This study aims to obtain a better understanding of how the teacher can support the acquisition of transversal competencies, such as collaboration, creativity and reflection when children aged between 11 and 12 take part in an activity designed to promote autonomous or self-regulatory learning. There is a need to equip the teachers to enable them to scaffold autonomous learning, taking into account the tensions coming to the fore between teacher's interventions and autonomous learning. How can the teacher ensure that the task is completed without interrupting the creative, collaborative and reflective dynamics within the group? How can they support learning becoming progressively more autonomous in each group? How is the flexible classroom organized to promote self-regulatory learning? The pedagogical scenarios presented in this research project have been drafted and trialled to help the teachers do just that. It is a collaborative research project inspired by Desgagné's (2007) procedure as the researcher, teachers and children all worked together at every stage of the study, i.e., the drafting of pedagogical scenarios by teachers in the UK and the trialling of these by teachers on their pupils in Switzerland. These scenarios were built with the purpose of promoting the development of transversal capacities in children at primary school level when engaging in various subjects: L1/L2/Lx, sciences, and maths. These school subjects were matched with a subphase of Zimmerman and Campillo's (2003) model, with one or two transversal capacities and with approaches currently applied to the teaching of these disciplines. Each of these scenarios can be used practically in the primary classroom to develop transversal competencies through autonomous learning.

Keywords: primary school, transversal competencies, autonomous learning, pedagogical scenarios, scaffolding

Introduction

Transversal competencies (TC) are often considered as a secondary preoccupation by teachers who need to get through a heavy curriculum usually centred on subject disciplines. However, TC are mentioned specifically in the French-speaking Swiss National Curricula, the Plan d'études Romand (PER) (2010) and are integral parts of the various subject descriptors. Moreover, TC are to be central to our children's learning and the practitioner's action is crucial to supporting the development of these competencies. Romainville (2006, p. 24) quotes the 'Missions' Act 1997

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where article 8 mentions that 'knowledge must be envisaged in the perspective that competencies will be acquired', showing thereby the centrality of these competencies in modern pedagogy. The literature review will look at what these competencies are in terms of their importance in primary education. Self-regulated learning will then be defined, followed by an explanation of the pedagogical scenarios developed for this project. The feedback from teachers who trialled them in their classroom will then be summarised in terms of the links that can be established with Zimmerman and Campillo's (2003) subphases of autonomous learning.

Literature Review

Transversal Competencies

In Switzerland, TC are an integral part of the school curriculum, with the caveat that there are competencies that seem to relate better to one school subject than others. However, the PER does identify some competencies to be common to several disciplines. Furthermore, student-teachers in teaching practice or novice teachers can find it difficult to imagine that creativity, collaboration, communication and reflection can be directly linked to any particular body of knowledge and that these TC can be practised and embedded in activities set up by the teacher to work on subjects such as maths, language or science. An added issue is that several terms such as competencies, capabilities and competencies are used in the literature, collocated with various adjectives such as transversal, cross-curricular, transferable and soft. There is thus a need to define the way TC are understood in the present study.

Perrenoud (1999, p. 12) makes the distinction between competencies relating to one discipline, competencies relating to several disciplines and competencies not directly linked to any particular subject. This distinction is useful in our study as no competency can be linked to one school subject, giving us some freedom to match them with a discipline, and leading us to the concept of cross-curricular competencies. Perrenoud (1999) adds a caution, stating that these competencies could be described in such a general way that they become almost meaningless. It is therefore essential to tighten the definition of TC as we will match some of them to particular subjects in the pedagogical scenarios drafted for this project.

The words capabilities and competencies are sometimes used as near-synonyms (Giglio, 2013, p. 1; Perrenoud, 1999, p. 6; Gerard, 1997) which is understandable as the PER labels them as capabilities but uses other appellations when mentioning the concepts. However, they are not synonyms. Capabilities (capacités) is a condition of a learner who has the capacity of completing a task or an activity but has probably not been achieved yet, so, capability logically comes before competency with the idea that it can be developed, as stated by Lucas (2019, para.3) when quoting Andreas Schleicher, OECD Director for Education and Competencies, who 'called on schools to focus on the development of transferable competencies'. Again, there is a certain amount of imprecision in the

terminology but the idea of development is interesting and the process by which capabilities can be turned into competencies is where the practitioner's role is situated.

Competencies, on the other hand, are what children need to call on in order to achieve a goal through measurable results. Perrenoud (1999, p. 1) makes the link between knowledge and competencies as the former becomes a tool which can be 'transferred, adapted to the circumstances, shared, tinkered with (…) at work and outside of work'. Furthermore, Romainville (2006, p. 25) reiterates the 'Missions' Act 1997 definition of a competency: 'ability to call on an organised pool of knowledge, competencies and attitudes which enable one to complete a number of tasks'. So, competencies are made of an integrated network of resources already mastered to some degree and which include knowledge but also cognitive, socio-affective and motor competencies and which need a specific situation to be called upon. In the same vein, Gerard (1997) views a competency as an integrated collection of capabilities which can be called on when needed. He takes the example of an architect who has the capability to measure the length of a room but this capability is essential to be competent in drawing a house blueprint. He makes the point that the same skill can be viewed as a capability or as a competency, depending on the level of the task at hand. We would argue that capability comes before competence and seems to be considered a lower concept, one that needs a process added on to become a competency. Transversal competencies as explained above is therefore the term adopted in the present project.

Autonomous or Self-regulated Learning

Autonomous or self-regulated learning is a concept which seems to be a little premature to explore as early as in the primary school context but Fleisher (2009, p. 1) claims that: 'learning is enhanced as children become in charge of their learning by being supported in autonomy as well as the development of academic competencies'. A primary school teacher can therefore support younger children in acquiring autonomy which, in this case, does not mean 'no teaching' but calls for different teacher's actions, which are evident from the pedagogical scenarios in the context of the development of TC during group activities. Schunk (2005) explains that looking at children's competencies and abilities alone did not always justify their achievement, which meant that other variables such as motivation and self-regulation were important to get the full picture.

Autonomous learning is a complex process which integrates metacognitive, cognitive and affective aspects. A robust body of literature has explored these over the past 25 years but these studies investigate a lot of similar features (Zeidner, Boekarts, & Pintrich, 2000). One of the definitions which will be adopted for the purpose of this study is Pintrich's (2000, p. 453), who defines it as 'an active, constructive process whereby learners set goals for their learning and then attempt to monitor, regulate, and control their cognition, motivation, and behaviour, guided and constrained by their goals and the contextual features in the environment'. This definition interests us as it implies that autonomous learning is made up of various phases, i.e., the setting up of goals, the monitoring and control of various constituents and an element of guiding, which in our study are defined as the

teacher's actions. Adding to this definition, Pintrich and De Groot (1990, p. 33) identify three main components in self-regulated learning:

> First, self-regulated learning includes children' metacognitive strategies for planning, monitoring, and modifying their cognition (…). Children' management and control of their effort on classroom academic tasks has been proposed as another important component (…). A third important aspect of self-regulated learning that some researchers have included in their conceptualization is the actual cognitive strategies that children use to learn, remember, and understand the material.

They state, however, that cognitive and metacognitive elements are not enough to explain children's engagement and ultimate achievement. Motivation has to be taken into the equation and they further unpack this element of affect into three components (Pintrich & De Groot 1990, p. 33): expectancy, value and emotional reactions to the task.

The model proposes that there are three motivational components that may be linked to the three different components of self-regulated learning: (a) an expectancy component, which includes children's beliefs about their ability to perform a task, (b) a value component, which includes children's goals and beliefs about the importance and interest of the task, and (c) an affective component, which includes children's emotional reactions to the task. Self-motivation beliefs are a subprocess of Zimmerman and Campillo's (2003) model which was drawn on for the theoretical paper (Bosmans, 2022, in press) underpinning the pedagogical scenarios developed for the present study. Self-motivation beliefs are part of the Forethought phase of the model and are an essential element to explore in relation to autonomous learning. Cleary and Zimmerman (2004) state that teenagers want more autonomy when engaging in learning activities but this is often being resisted by teachers, resulting in a lack of motivation and frustration with learners. Admittedly, the pedagogical scenarios have been developed for the last years of primary education but the findings of our theoretical paper show that a lack of auto-motivation is not often addressed by teachers in their primary classroom. Zimmerman and Campillo's (2003) model used to underpin the pedagogical scenarios incorporates all three cognitive and motivational components identified by Pintrich and De Groot (1990) but these are listed more practically and they have all been matched with a corresponding scenario to enable children to focus on one of the model phases.

There are, moreover, some assumptions that are made in most models of self-regulated learning and it is important to mention them here as stated by Schunk (2005, p. 87):

> First, learners are active and constructive participants in learning rather than passive recipients. A second assumption is that learners have some choices or the potential for control over key activities. Third, many models of self-regulation assume that learners have a goal or criterion level of performance against which they can assess progress. Finally, most models assume that self-regulatory processes mediate the relation between personal factors and performance outcomes.

Zimmerman (2002, p. 64) states that few teachers currently prepare children to learn on their own. Twenty years later, the introduction of flipped classrooms and post-pandemic flexible and hybrid learning contexts have bettered the situation but there is still improvement to be had, resulting in a robust rationale for the use of our scenarios. Another current issue is caused by immigration waves giving rise to classrooms with very spiky profiles and special learning needs when attempting to address allophone populations' needs. Zimmerman adds that teachers not only have to be aware of their children's strengths and limitations but should promote children's own awareness of their needs and therefore learn to develop the capacity to self-regulate. This will stand them in good stead for the world of work where a lot of competencies are acquired on the job, as Zimmerman (2002, p. 66) maintains that 'self-regulation is important because a major function of education is the development of lifelong learning competencies'. He adds that 'recent research shows that self-regulatory processes are teachable and can lead to increases in children's motivation and achievement' (Zimmerman, 2002, p. 69). Children who manage to achieve good grades and enjoy the learning process is certainly the best justification for promoting autonomous learning and the development of transversal competencies, which will all set them right for their future careers.

Methodology/Materials and Methods

Pedagogical Scenarios for the Teacher Community

Schunk (2005, p. 91) states that:

> Research is needed on contextual influences on self-regulation and especially in different content areas. Principles of self-regulation are assumed to generalize across contexts, but contexts affect children's choices and thus the amount and type of self-regulation possible. Research is needed on self-regulation in content areas such as science, mathematics, and languages.

In order to address this need for more research identified by Schunk, and in order to develop a practical application of our theoretical paper findings to be used in the classroom, three pedagogical scenarios were drafted in collaboration with the teachers who took part in the theoretical research project. These three scenarios were to be articulated along subject lines (languages, maths, sciences as identified by Schunk, 2005) matched to transversal competencies more easily developed in their respective subjects as can be seen in Table 1. A further requirement was to match these to one of the subphases of Zimmerman and Campillo's (2003) model to ensure that the three scenarios would cover all transversal competencies and all phases of the self-regulated learning model, thereby following the advice given by Zimmerman (2002, p. 66) that the self-regulation of learning 'involves the selective use of specific processes that must be personally adapted to each learning task'.

Table 1. General Theoretical Framework for the Three Pedagogical Scenarios

Subject	**Transversal Competencies**	**Zimmerman and Campillo's (2003) Model Phase**
Foreign Language or L1/L2	Collaboration and communication	Task analysis and self-motivation belief
Maths	Learning strategies and creativity	Self-control and self-observation
Sciences	Reflexion	Self-judgment and self-reaction

Previous work from Giglio (2004) was used for the general framework of these scenarios but the inclusion of all transversal competencies as defined by the PER and the self-regulated learning model (Zimmerman & Campillo, 2003) allowed us to depart quite drastically from these earlier offerings. The new scenarios were also developed directly from the findings in Bosmans (2022, in press), and they were written in collaboration with the teachers who took part in the United Kingdom as subject specialists and, following their translation into French, trialed and evaluated by the teachers in Switzerland, making the project a truly international partnership between researchers and teachers as researchers and co-constructors of knowledge (Desgagné, 2007). The English version of these scenarios can be found in Appendix 1. Italics indicate the amendments resulting from the Swiss teachers' feedback. The scenarios were trialed in Swiss primary schools and were tested in December 2021 and January 2022. The children participating in these experiments were aged 11 to 12. The demographics of children who tested these scenarios are shown in Table 2.

Table 2. Demographics of Children who Tried the Pedagogical Scenarios

Subject	**Number of Children**	**Average Age**	**Comments**
Foreign Language or L1/L2	20	11 years old	
Maths	22	11 years old	
	22	11 years old	
Sciences	18	12 years old	Two groups of 9 children
	22	11 years old	

Following extensive feedback from the Swiss teachers, these scenarios were amended accordingly and then published separately in a Swiss professional teacher education journal, l'Educateur (2022)[1], in order to make them easily available to teachers. Not only were the scenarios themselves the object of extensive and very precise feedback but there was also more general and useful feedback on transversal competencies and self-regulated learning which is explained in the next section.

[1]l'Educateur (2022). Available at https://www.le-ser.ch/educateur.

Findings

General Points

Several findings were observed through the trial phase of these three scenarios. The teachers' feedback is noted in italics in the scenarios in Appendix 1. More findings are presented and discussed below following a framework similar to the literature review above. Thus, the results focus first on transversal competencies, conative dimensions and self-regulation of learning. The findings are then looked at through self-directed and self-regulated learning where the hypotheses and proposals of the various authors are confronted with the observations made. Finally, a reflection on the sub-phases of Zimmermman and Campillo's (2003) model and their link with transversal competencies is offered.

Transversal Competencies, Motivation and Auto-regulated Learning

Schunk (2005) notes that student competencies alone do not explain children's success as motivation and self-regulation are also salient features. In the three scenarios that were tested, motivation is at the heart of student engagement. Thus, in the purification of water science scenario, the enthusiastic children in the second class remained active throughout and carried on searching for the best purification sequence whilst their mates from the first group did not invest themselves in it in the same way. In the maths experience, the ability to self-regulate was sometimes lacking and eluded some children whilst others were heavily invested. An identical observation was made in the language breakfast scenario. These findings confirm the importance of the three components of motivation identified by Pintrich and De Groot (1990), where emotional reactions most often constitute the determining factor in children's initial engagement. The other two elements seem to be more decisive in maintaining student engagement, where expectation in one's ability to succeed and the value associated with the task appear to be the drivers of sustaining commitment to the task.

An element not mentioned by the literature which would be interesting to add here consists in the children's previous knowledge and, as a result from our observation, the parents/guardians' socio-professional category where, depending on the family educational culture, children could have been previously motivated in the concepts covered during the lesson.

Children's Engagement and Learning

In the language scenario, the children of two groups hesitated between different countries, the criterion retained for the choice lying in their opinion that they would be able to succeed in making the chosen breakfast. Similarly, this expectation component (Zimmermann & Campillo, 2003) also came into play in the maths activity where children who felt competent were engaged whilst other classmates withdrew for fear of not succeeding in completing the task. The value component of self-directed learning (Zimmermann & Campillo, 2003) was expressed differently for the three scenarios. Children perceived the interest of the

language task when concretely preparing breakfast and they engaged with interest and conviction to purify the water. However, their maths classmates did not take the time to listen to the presentations of the other groups to enable them to successfully complete the proposed activity.

Discussion

Several assumptions can be made about factors impacting the student's engagement in the scenario activities, such as:

- the children's age,
- group numbers,
- the traditions, beliefs and habits in the three disciplines for both children and teachers and
- the working and learning context created by the scenarios.

Indeed, if the child believes that it is necessary to have a correct result in maths, he or she will probably miss the process to arrive at the result and if the student is convinced that it is necessary to mobilize an experimental method in science, the error status will not have the same impact as in a right/wrong situation.

Thus, the value component seems to be linked to the final result (breakfast), to the interest of the activity (water purification) or to a certain social acknowledgment in the class (maths). The scenario and the beliefs linked to the various activities imply that the value component is not necessarily oriented towards the learning object.

Furthermore, emotional reactions seem to be intimately linked to the value component, where children engaged in the science process display enthusiastic attitudes, while tensions to arrive at the result were observed in the maths activity, as well as in certain groups of young children when choosing the country for the breakfast activity.

According to the observations made, commitment and its maintenance over time seemed easier when the three components (value, expectation and affect) were present simultaneously and when the value component was process-oriented.

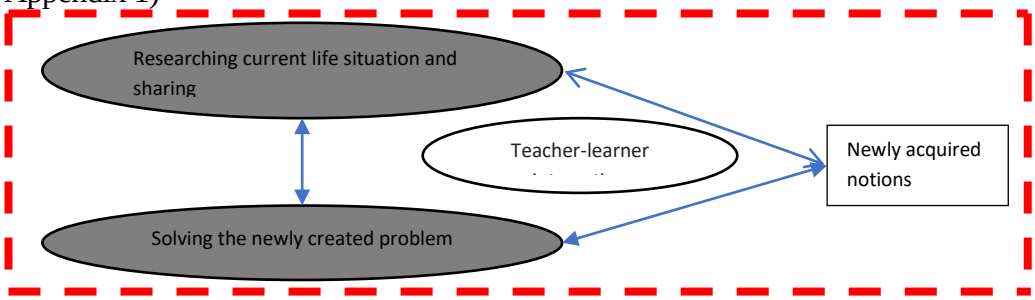
When children committed to the task, they also self-regulated in several situations to maintain this commitment. In the water purification experiment, children repeated trial and error situations to find the best purification solutions and in the breakfast scenario children reviewed their criteria to find the most suitable country. Through these tests or the reconsideration of criteria, they modified their cognition or understood the use of the equipment (Pintrich & De Groot, 1990). When they listed difficult breakfast words and shared them to the entire class, they controlled their efforts (Pintrich & De Groot, 1990) to aim for greater efficiency.

With regards to the maths scenario, the children managed to enter into discussions as they solved the problem they had drafted. In this experiment, the children, in order to enter into metacognitive reflection, seemed to evolve within a

loop between problem creation, problem resolution and the confrontation with new knowledge. It is in this back and forth between the making up of a situation, its resolution and the mobilization of new notions that the children question themselves about their activity, their inferences, their way of working, and the meaning of what they do. It should be noted that it is also at this moment that the teacher enters into a dialogue with the various groups by questioning them: "What answer should be obtained?", "How did you start and then what did you do?", "For what purpose are you doing this?", etc.

For the teacher, when setting up a didactic sequence, the search for this type of loop between creation, resolution and confrontation with new knowledge should be a means of controlling the quality of the sequence. Moreover, setting up such a framework for analysing a didactic sequence allows the teacher to determine where and when they should give impetus or on the contrary withdraw and let the children learn autonomously. This will enable the children to enter into metacognitive reflection. According to the observations made, it would seem that the teacher-student interactions within this loop are the most effective in initiating learning and this is illustrated in Figure 1. We also need to highlight here that the teachers who participated are not used to interacting with students at this metacognitive level and that, due to a lack of such practice, teachers do not come into these learning areas very easily. They tend to return to more familiar grounds and their preferential teaching and learning patterns. In this study, we relied a lot on the students, and understandably so, as this is about the development of their autonomous learning, but the teaching position could also be commented on here, as it was done in Bosmans (2022, in press).

Figure 1. Creation-resolution-new Notions Loop of the Math Scenario (See Appendix 1)



For Schunk (2005), learners are active and constructive participants in learning. This is evident in the children's ability to bring together their existing knowledge to list new breakfast lexis or to improve the planned organization through pooling. The maths groups all mobilized different strategies based on the various ideas expressed in the groups. Finally, in the science group, the 12-year-old children were very active through the many tests to get to the best purification solutions. One element remains common to all scenarios, the moment of institutionalization of knowledge and its anchoring. Indeed, this moment seems necessary so that the notions discovered can be firmly fixed.

Schunk (2005) also mentions that learners have the potential to exercise control over key activities. This can be seen in the breakfast scenario where the

children exercised control over the selection criteria or the organization in the groups, as well as in the water purification scenario where the children acted on the choice and the ways to filter water and purify it. In maths, children found it more difficult to gain control over key moments when moving from problem solving to problem creation. They were faced with a double task: to draft a problem and to find it related to everyday life. This complexity held them back. However, this complexity seems to be an element to be explored in order to determine to what extent a dual cognitive task obliges the student to reason in a metacognitive way in order to identify original problem-solving solutions. Imagining such solutions through a metacognitive approach seems to be a way to develop transversal competencies.

Finally, for Schunk (2005), learners have an objective or a performance criterion against which they can evaluate their progress. The three scenarios offered varied answers to this third point. In terms of water purification, the main performance criterion was very easily accessible: water purification and the functionality of purification methods. Children could easily measure their progress through these fairly easily observable elements. For the other two experiments, the performance criteria allowing the observation of progress were less obvious. For the breakfasts, these criteria would be found in the actual making up of breakfasts and the learning of a new vocabulary. In maths, the student would be able to identify a better understanding and ability to solve mathematical problems related to the notions studied. However, for both breakfasts and maths, progress would be quite measurable at the end of the activity while for the science scenario, progress would be assessed more continuously. The comparison of the three scenarios suggests that it is easier to inhibit frustration and disappointment if the performance criterion is visible, immediate and permanent.

Sub-phase of Zimmermann and Campillo's (2003) Model and Development of Transversal Competencies
Language scenario (Breakfasts)

The first scenario proposed consisted of the sub-phases of task analysis and self-motivation beliefs. These sub-phases were linked to the transversal competences of collaboration and communication. The division of tasks and the distribution, more or less chosen, revealed a variable amount of motivation among the children. Some found tasks to carry out that suited them well and others found themselves with less interesting tasks impacting on their engagement. Thus, self-motivation could be partly associated with the student's feeling of competence.

In view of the results of the first scenario, the ability to analyse tasks and the distribution of duties seems to be a necessary prerequisite for the construction of transversal competencies of communication and collaboration which in turn and, through their development, reinforces this analytical ability.

Maths Scenario (Sharing)

The dominant subphase of Zimmerman and Campillo's model in the maths scenario was self-mastery and self-observation. Many situations in the completion of this scenario showed these two skills. Indeed, during the group work presentation, the children found themselves in a condition of social acknowledgment. This situation required a certain amount of self-control to meet the demands required. The debates and confrontations of ideas in the various groups also required good self-control and a certain ability to observe oneself in order to maintain a critical eye on one's own functioning.

Other situations arose where self-control was required, such as:

- maintaining attention in a situation where the link between the task and knowledge was not self-evident;
- the intra-group conflicts due to the frustration of not having answered all the questions and not listening to the other groups during the presentations,
- the sharing of ideas and the collective construction of a solution,
- the management of the dual task,
- being faced with the solutions of other groups and leaving an initial solution in favour of another group's solution.

When it came to self-observation, when it was necessary to move from the resolution of a proposed problem to a problem to be drafted, the children found themselves in a situation of insecurity. To help them observe themselves and take a step back from the activity and their work, the teacher questioned them about what they did, why they did it, etc. These sub-phases of self-mastery and self-observation was particularly visible in the development of creativity. It is through self-control and self-observation that the student manages to inhibit certain spontaneous behaviours to engage in thoughtful and constructed behaviours or in the exploration of new ideas.

In the creativity-resolution-new notions loop, children must inhibit certain spontaneous thoughts, such as resorting to the first maths activity by replicating it or old notions, in order to be able to integrate the new knowledge into the newly-drafted problem. For this, good control and good self-observation facilitate the back and forth between creativity, resolution and integration of new concepts. The teacher's role at this stage is essential to guarantee this dynamic.

Science Scenario (Water Purification)

In the water purification scenario, self-assessment and self-reaction were introduced as well as the *reflection* competence. Children were placed in a situation of reflection, creation and trial and error in this scenario. Each attempt in the experimental part offered a result that had to be accepted, analysed and improved. To enter into this progressive and creative process, children must necessarily be able to self-assess in the activity and self-regulate between enthusiasm and disappointment. It is in this self-evaluation and this self-regulation that the student manages to remain on task and to progress.

Conclusion

In conclusion, the trialling of these three scenarios allowed for the validation of the best subject/phase/TC match when endeavouring to develop autonomous learning through group activities. It also allowed for a refining of the scenarios following the teachers' feedback and a robust analysis of children's interaction with the activities being offered. In view of these three scenarios and related experiments, it is worth noting the contribution of the sub-phases of Zimmerman and Campillo's (2003) model in understanding the development of transversal competencies. If TC are known and displayed in the French-speaking study plan, Zimmerman and Campillo's model and, more specifically, its sub-phases propose concrete elements to be introduced into the educational activities offered to children. These sub-phases also present themselves as beacons to mark out the pedagogical scenarios imagined by teachers who would like to engage in this type of approach.

Finally, all the teachers who participated in the implementation of these scenarios noted an element to add. All thought that students should record discoveries, important moments, choices, ideas, etc. in a diary. For example, in the breakfast scenario, the children could write the idea of pooling resources in their diary and then work on this notion. This perspective could probably allow them to improve their future collaborations. In the same vein, the student could write in his logbook the series of questions asked by the maths teacher and reuse them in the resolution of a future problem or to build a method or a resolution algorithm. Teachers thought that this diary could constitute the essential element promoting the transition from cognition to metacognition. Indeed, moving from cognitive to metacognitive reflection is not easy; however, the keeping of a diary listing children's experiences, reflections, ideas, and resolutions, which would sometimes be used or analysed, would allow children to move from cognitive to metacognitive reflection, perhaps the object of a subsequent study.

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Appendix 1

Three educational scenarios aimed at building an environment conducive to the developing of transversal competencies in primary school children through self-regulated learning.

Scenario 1 – Collaborating and talking about the design of a mini-project for the organization of an event, a mini-project that fits into the task-based learning perspective

Organization of an event such as, for example, an international or intercantonal breakfast, a fashion week at school, a *Switzerland's Got Talent* or a *Spelling Bee* competition in French or English or any other event that could be organized in a primary school. The theoretical framework is summarized in Table 2. This scenario is appropriate for classes from Year 5.

Table 2. Theoretical Framework for Pedagogical Scenario 1

Subject	**Transversal Competencies**	**Zimmerman & Campillo's Model Phase**	**Pedagogical approach**
Languages (L1, L2, L3, Lx)	Collaboration and communication	Forethought Phase (task analysis and self-motivation belief)	Task-based Learning and plurilingualism

Version 1

This is a project where children play the role of organizers of an international breakfast for which they had to work on the dietary differences, the culinary specialties of the countries represented in the student population of the school, learn the associated vocabulary in French, English, and one or two other languages represented, prepare the organization (invitations and trilingual or quadrilingual lexical labels for each food presented) and receive their guests in the lingua franca, i.e., in English.

The final task thus consists in an interlinguistic and intercultural exchange on a situation of everyday life through the staging of an international breakfast.

Aims

1) Cultural openness to eating habits between the indigenous population and the different linguistic communities represented in the school
2) Health education through awareness of good eating habits
3) Work on language competencies in L1, L2, and L3
4) Work on socio-linguistic and cultural competencies
5) Work on the pragmatic competencies of organizing an event

Version 2 (in the case where no children from immigrant parents are in the school)

This is a project where children play the role of organizers of an intercantonal breakfast for which they had to work on the dietary differences, the regional culinary, learn the associated vocabulary in French, German and English, prepare the organization (invitations and trilingual lexical labels for each food presented) and receive their guests in the lingua franca, i.e., in English.

The final task thus consists in an interlinguistic and intercultural exchange on a situation of everyday life through the staging of an intercantonal breakfast.

Aims

1) Cultural openness to eating habits between the four linguistic communities in Switzerland
2) Health education through awareness of good eating habits
3) Work on language competencies in L1, L2, and L3
4) Work on socio-linguistic and cultural competencies
5) Work on the pragmatic competencies of organizing an event

The Scenario

1) The teacher presents to the children a scenario which proposes the organization of an event held at the school and which supports the acquisition of the CTs of collaboration and communication, reactivates linguistic knowledge already acquired, in order to engage the children in taking action (TBL perspective) and to plan everything that is necessary for the organization of the event of an international nature.
2) In a first phase, the children will work in groups of four and will choose the languages represented as well as the regional or international specialties to be included in the breakfast. They should also write down the tasks to be performed by each member of the group. This phase allows task analysis and prompts children to share their self-motivated beliefs (see Figure 2). It also encourages children to work together to reach common decisions.

Figure 2. Forethought Phase and Organization of Tasks by Zimmerman and Campillo (2003)

3) Secondly, the groups present their choices to the other children and justify them by explaining how they arrived at a joint decision. Each member of the group also explains their specific tasks. This second phase develops the children's communication competencies and allows them to set the operational objectives of each group. The teacher notes on the board the negotiation strategies used by the children, as well as the content and knowledge involved during this phase of forethought and organization.
4) The last phase is the teacher's feedback which synthesizes with the children the strategies of collaboration and negotiations employed by all the groups, the positive and negative points of the various children's presentations, as well as the objects of knowledge essential to the accomplishment of the mini -project.

The details of the scenario steps are given in Table 3.

Table 3. Detailed Scenario Steps

Step 1	5 – 10 min	The teacher presents the children with the outline of the mini-project, i.e., the organization of an event (international or intercounty breakfast) held in the school, and gives instructions both on the content required and on the need to collaborate and communicate. *This activity requires another period to complete Step 4.*
Step 2	15 – 20 min *25 – 30 min*	Children work in groups of four. They choose the languages represented in the project as well as the specialties. They plan and define the tasks of each member of the group and write their choices on an A3 poster. *The teacher writes on the board the double task (organisation and choice of country) to support group work.*
Step 3	15 – 20 min	The groups explain, justify their choices and talk about how they negotiated during a short plenary presentation. The other children give suggestions.
Step 4	5 – 10 min *25 min + I more period of 45 min*	Each group corrects and improves their poster based on feedback from their classmates. Posters are displayed after correction. *The teacher asks children to find books and documents which could help them in their project. She/he also asks the children who are bilingual to look up vocabulary. Following step 4, the teacher asks children to write down individually how they collaborated, how they communicated, which difficulties were encountered and what strategies they can use to move forward together.*
Step 5 *(4th period)*	10 – 15 min *20 min*	The teacher gives feedback and lists on the board the main negotiation strategies mentioned by the children, as well as the content and needed knowledge explained during the presentations.
Step 6 *(4th period)*	10 – 15 min *25 min*	The children discuss the collaboration and communication strategies, the content and the knowledge explained and the organization of the mini-project. They note the key words and important aspects of the collaborative strategies thus explored and facilitated by the teacher. *She or he contextualizes the project as follows:* *The groups are kitchen teams who have to prepare breakfast for:* - *All the other children in the class* - *The main teacher* - *The school Headteacher* *Reflection to be completed on the breakfast content but also on the environment (decorations, tables, etc.)*
Step 7	45 min *(5th period)*	Children plan and organize the mini-project. This phase can take a double period if necessary. *Project being implemented: each group does it according to their mindmap. Children distribute tasks and organise themselves to complete the project.*
Step 8	Indefinite *(6th and 7th period)*	Implementation of the mini-project. The number of tables set up will correspond to the number of groups.

Scenario 2. Create a maths problem and think about learning strategies when resolving it

Children write a new maths problem with the teacher endeavoring to raise their awareness of learning strategies to solve it. The problem will be written in L1 and may call on other disciplines in its formulation (history, geography, physical education, ACVM, etc.). The goal is for children to think about learning strategies and to be aware of children's task control that will help solve the problem (self-instruction, imagery, focused attention & task strategies) as well as self - observation (metacognitive monitoring and self-recording) throughout its execution. The problem is designed for Upper KS2 children which is an age range from 9-11 years old. The theoretical framework is summarized in Table 4.

Table 4. Theoretical Framework for Pedagogical Scenario 2

Subject	**Transversal Competencies**	**Zimmerman & Campillo's Model Phase**	**Pedagogical Approach**
Maths	Learning Strategies and Creativity	Self-control and Self-observation	Collaborative and Inquiry Based Learning.

This is a project where the children play the role of writers of a new maths problem for which they will have to draw on already acquired knowledge.

The children will be presented with a task which develops discussion around specific aspects of fractional understanding as well as the concept of sharing. They will be shown how a simple context can have mathematical understanding drawn out. Further suggestions to further the depth of enquiry will be demonstrated in adding variables that were not in the original problem, giving children the chance to be creative and seek other ways to challenge participants.

The final task therefore consists of an exchange on the learning strategies used to solve a maths problem written by the children and a reflection on metacognitive control and monitoring throughout the problem-solving task.

Aims

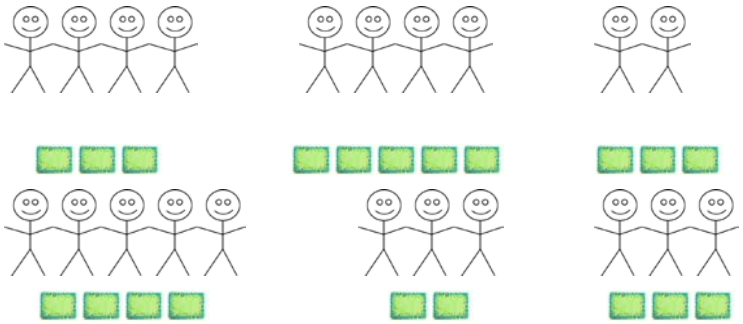
1) Consider application of maths competencies to other contexts
2) Develop ability to think creatively
3) Take note of the learning strategies used to create and resolve the problem
4) Improve mathematical language and vocabulary
5) Work on presenting competencies
6) Develop knowledge and understanding on fractions and sharing

The Scenario

1) The teacher presents the children with a scenario that suggests writing a new maths problem that supports the acquisition of transversal competencies such as learning strategies and creative thinking. The teacher makes the children

aware of the type of problem to be written and explains some learning strategies that can be applied in solving the problem.

2) In a first phase, the children will work in groups of four. They will be given these diagrams and be asked first to consider what can they work out from the groups of individuals and rectangular cakes.



After a short time to be able to explore this by themselves, ask the children which group will receive the most cake if all the cakes in the group are shared equally. It is worth giving the class a few moments to ponder each question before asking for oral responses.

Encourage children to draw and discuss their ideas. Once they work out which group would get the most, ask which group would get the least amount of cake. Focus discussion on fairness and how the size of the group matters just as much as the amount of cake to share.

3) Once clear ideas and discussion have been developed, suggest to children that this scenario can be replicated in a number of ways with a variety of objects. Elicit ideas to support the process that they will be asked to undergo. Move children to recognise that there could be space to include different types of cakes (different shapes, different textures, different flavours, etc) and they could explore different proportions across different groups.
4) Children will then need to design their own context which could use cakes (perhaps some other context) where objects need to be shared and they will have to pose questions which other groups will need to answer using similar competencies but can include their own original ideas (e.g., instead of focusing on which group gets the most, explore which group would be better for you if you prefer chocolate cake and so on)
5) They will also have to write up the monitoring and control tasks to be carried out by certain members of the group who must be designated by the group at the start of the activity. This phase allows children to already think about the learning strategies that will be necessary for the other groups to solve their problem and prompts the children to use their creative thinking when writing it (see Figure 3). It also encourages children to consider how to explain a mathematical task and guide others through the thinking process if they need support.

Figure 3. Performance Phase and Self-control and Self-observation Concepts by Zimmerman and Campillo (2003)

6) Secondly, the groups present their problem to the other children and mention the learning strategies that will be necessary to solve it. Each member of the group also explains their specific tasks. This second phase develops children' awareness of learning strategies and allows them to set operational goals for each group. The teacher notes on the board the learning strategies used by the children, as well as the content and knowledge involved during this phase of execution. Children then act on the feedback and criteria further explained by the teacher.
7) The last phase is the teacher's feedback which synthesizes with the children the learning strategies employed by all the groups, the positive and negative points of the creativity shown by the children as well as the objects of knowledge essential to the resolution of the problem.

The details of the scenario steps are given in Table 5.

Table 5. Detailed Scenario Steps

Step 1	5 – 10 min	The teacher presents the criteria to draft a good maths problem and gives an example.
Step 2	15 – 20 min	The teacher *gives her instructions and* elicits from the children and teaches overtly some learning strategies appropriate to resolve a maths problem. *Pay attention to how the groups are made up as their understanding of maths may vary. Think about presenting the project in different ways to motivate everyone in the groups. For instance, one child can have part of the problem and the pulling together of all parts can lead them to discover the activity.*
Step 3a following feedback		- *The teacher helps children to identify real life situations where things need to be shared and elicits two to three simple examples when this happens in real life* - *It would be useful to explore with children how a maths problem is structured (data, context, schemata, question, etc.) and to define a methodology to construct a problem.* - *Children are encouraged to make their situations/ problems more complex.*
Step 3	15 – 20 min	Children work in groups of four and draft their maths problem on the sharing of cakes or other items. They plan and define the learning strategies that will be needed to resolve the problem and write their choices on an A3 poster. *Teacher's instructions: You are going to create a problem about sharing which you could get in real life and write down your strategies (we thought about this, we tried that, etc.)*
Step 4	5 – 10 min	Presentation of the posters or other sharing activity, such as the World Café method (in which case, this step would take more time. During a World Café, the participants analyse the object, discussing in small groups set at different tables for several subsequent periods of 10 minutes. The participants move to the next table after each period in order to enrich their discussions thanks to the ideas presented at the other tables.)
Step 5	10 – 15 min	Feedback from the teacher on the posters, using the equipment of their choice and in a plenary session.
Step 6	10 – 15 min	*Another possibility: Mix the groups to obtain a richer discussion, each child having their notes on strategies (Step 3).* The children discuss the learning strategies, the content and the knowledge explained and the maths problem to be resolved. They note the key words and important aspects of the creativity and learning strategies thus explored and facilitated by the teacher. *Look out for potential conflicts due to the various strategies used by the children. Prepare some group management rules.*
Step 7	45 min (3rd period)	The children write their second draft of the problem and list learning strategies needed.
Step 8	Indefinite	The children work on all maths problems and resolve them.

Scenario 3 - Choose a scientific procedure with built-in reflective practice (for children to reflect on how things went or how effective their procedure is)

This is a project where the children play the role of scientists testing a scientific procedure for which they will have to draw on already acquired knowledge. The task which will be an example for KS2 Year 5 children (9-10), topic materials, to use is described below. They will first mimic sea water pollution by incorporating all sorts of pollutants into salty water. They will then experiment with the various sieves to filter the water and reflect on the best filtering sequence. They will then apply a scientific procedure to turn salty water into water ready for human consumption. The final task consists into reflecting on the state of our oceans, how to filter pollution and make soft water out of salty water. More importantly, children will evaluate the way they have applied the various procedures and reflect on how they arrived at their choices. The theoretical framework is summarized in Table 6.

Table 6. Theoretical Framework for Pedagogical Scenario 3

Subject	**Transversal Competencies**	**Zimmerman & Campillo's Model Phase**	**Pedagogical Approach**
Sciences	Reflexion	Self-reflexion Phase (Self-judgment and self-reaction)	Kinaesthetic Task

Aims

1) Raise awareness of water pollution on our planet
2) Work on scientific procedure and sequences (the best way to filter rubbish out of water)
3) Reflect on most efficient scientific procedure
4) Use scientific procedure to clean sea water
5) Work on scientific experiment – turn salty water into soft water

The Scenario

1) The teacher presents to the children a scenario which raises awareness of sea water pollution and proposes various scientific procedures to clean the water and make it ready for human consumption. It is a scenario that supports the acquisition of reflexion, one of the transversal competencies identified in the PER. Discuss with children what substances you might expect to find in the sea and prepare a jug of dirty water. This can be done some days before the activity to give you time to collect the items, such as sand, grass and plastic, or you can prepare a collection in advance and as they suggest each substance add some of it to the jug of water, stirring thoroughly. If creatures are mentioned discuss but do not add!
2) In a first phase, children will work in groups of four and are challenged to produce clean water from dirty water they are given, using a range of filters to

achieve their goal. The filters suggested in this experiment are a sieve, a sand filter and filter paper but the teacher may choose to use other items. Children can try using the filters in different orders to see what happens and note down the result to reflect on the most effective approach (which is to use the sieve first, as this has the largest holes and will remove the bigger pieces of rubbish, the sand filter second to remove smaller items and the filter paper or cloth last as this has the smallest holes.) This phase allows children to already reflect on various procedures and what reasoning was used to come to their choice (see Figure 4).

Figure 4. Self-reflection Phase and Self-judgment and Self-reaction Concepts by Zimmerman and Campillo (2003)

3) Secondly, and once the children have filtered out what dirty materials they can, the teacher then evaporates and collects the water to show the salt and any other dissolved materials left behind. It is recommended that this is done as a teacher demonstration as a heat source is required to evaporate the water. Children should pour some of the water that has passed through all the filters into a foil pie case, about half a centimetre deep (a smaller amount of water will give a rapid result). These foil cases will be collected by staff. The foil cases with filtered water are placed on the warmer a safe distance from the children. A cold metal tray is held at an angle, about 45 degrees, over the foil cases facing the children. This will soon collect some condensed water which can be pushed into a clean tray. Following a careful check, this water will be cool enough for the children to touch.
4) The last phase is the teacher's feedback which synthesizes with the children the items of reflection mentioned by all groups, the positive and negative points of the procedures used by the children as well as the objects of knowledge essential to the resolution of the scientific problem.

The details of the scenario steps are given in Table 7.

Table 7. Detailed Scenario Steps

Step 1	5 – 10 min	The teacher presents the two scientific tasks to complete after having raised the children's awareness of water pollution on our planet. *Contextualisation of the task essential, PPT available on request.*
Step 2	15 – 20 min *(this will vary depending on children's age)*	Children work in groups of four *(groups downsized to 3 if possible).* They choose the best water filtering sequence and note down results and their reflexion on it using the worksheet which can be available on request.
Step 3	15 – 20 min	The groups explain and justify their choices during a short plenary presentation. The other children give suggestions and note down other groups' ideas whilst the teacher records their reflection on a computer using software such as Audacity (or other recording equipment or software.) *The teacher should ask them about their procedure to avoid groups presenting similar ideas.*
Step 4	5 – 10 min	Each group prepares their clean water foil case and give it to the teacher. *If a break is taken at this stage, when the children reconvene, the teacher adds a second plenary where children can present their results and difficulties they met. They should also answer the questions on Appendix 2 and share their ideas orally.*
Step 5	10 – 15 min	The teacher goes through the evaporation and collection of soft water procedure. *The children were very enthusiastic and could complete this step by themselves (depending on Health and Safety rules in your country).*
Step 6	10 – 15 min	The teacher plays the recording, children listen and read what the teacher notes on the board, i.e., the various points highlighted in the children's reflexion. *A conclusion on existing solutions for depolluting oceans is quickly presented through the use of videos (Ocean Cleanup).*
Step 7	45 min (3rd period)	The teacher gives his/her feedback on the most effective scientific procedure and on the children's reflexion about the most efficient way to choose the correct procedure to solve a scientific problem. The teacher will now introduce and propose a further activity on another pollution problem to be explored and solved during the next session. *(Feedback Questionnaire on the activity available on request).*

Appendix 2

How Can We Clean This Dirty Water?

Water covers most of the earth and is vital for life. Of all the world's water, approximately 97% is found as salt water in the seas and oceans. Although it may look clean, the seas are becoming more polluted with rubbish. There are large and small items being dumped in the sea, from pieces of wood to tiny beads of plastic from products such as face creams. All of this makes sea water a mixture that is unsafe to drink. As well as this, salt is dissolved in sea water making it a solution. Land animals need to drink water every day to stay healthy but cannot drink sea water. Do you think we can turn dirty, salty water into something that animals can drink?

Your task: Use the filters given to you to remove as much dirt and other material as you can from the dirty salty water you have been given.

Each group will be given a tray and three filters; a sieve, a sieve with scourer pad holding sand and a sieve holding a piece of filter paper or material.

Results

Filter name	Which order for filters?	Prediction I predict this filter will remove . . .	Results What substances has this filter removed?

After filtering, I predict the water is/is not safe to drink because

.....

.....

.....

After evaporating, I predict the water is/is not safe to drink because

.....

.....

The first task is for each group to decide the best order to use the filters in and explain their sequence of filters. The children then fill in their predictions of what they think each filter may remove in the results table, as shown:

Each group will get a plastic cup of dirty salt water. Children will stir this and slowly pour about three-quarters through filter 1 so it collects in a clean plastic cup underneath. They should compare this filtered water to the quarter of dirty salt water left behind in the beaker and note any changes in the results table (is it cleaner/dirtier/clean?).

Children take the water that has passed through filter 1 and pour three-quarters of it through filter 2. Compare the water that has passed through filter 2 to the water left from filter 1.

Children take the water that has passed through filter 2 and pour three-quarters of it through filter 3. Compare the water that has passed through filter 3 to the water left from filter 2.

Children should discuss what the different filters have removed and whether the filtered water is clean.

Questions: What have the different filters removed? Is the water at the end clean?

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Is Distance Education Fun? The Implications of Undergraduates' Epistemological Beliefs for Improving Their Engagement and Satisfaction with Online Learning

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The epistemological beliefs of students are an important area for higher education research. This paper firstly reports on a research review concerning the impact of epistemological beliefs on academic outcomes. This review indicates that students' epistemological beliefs are an influence on their engagement with learning and academic success, and that educators should consider them in developing learning experiences. This issue became particularly pertinent in the context of a global pandemic that necessitated an international trend in moving to online distance education, where student disengagement is more likely to occur. However, research into distance education students' epistemological beliefs emerged as an under-researched field. Consequently, an empirical questionnaire study was conducted with data collected from 550 distance education students. A principal component analysis indicated that particular epistemological beliefs were significantly associated with students' enjoyment of studying online. Their beliefs regarding the role of fun in online learning materials and activities are discussed, and the usefulness of considering fun and epistemological beliefs as factors within distance learning in higher education is highlighted.

Keywords: epistemological beliefs, higher education, fun, online learning, academic success

Introduction

Many universities across the world responded to the COVID-19 pandemic by developing their online teaching provision. However, online higher education is a context in which the number of students who fail to complete is significantly higher than found in traditional university settings (Woodley & Simpson, 2013). Therefore, there has been an increased need, worldwide, to understand how best to

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ensure the success of higher education (HE) students studying online. One potential influence concerns students' epistemological beliefs.

Epistemology concerns the theory and study of knowledge and epistemological beliefs are people's beliefs about some aspect of knowledge (Schraw, 2013). These beliefs, for example, might be about notions of ability, and the extent to which the a person's ability to learn is genetically determined or can be enhanced through education and experience (Schommer-Aikins & Hutter, 2002) or the extent to which learning is the process of a simple transmission of information (OECD, 2009). Research has been carried out on the epistemological beliefs of higher education students, and how they develop, for at least 50 years (Richardson, 2013). Research has also investigated the relationship between students' personal epistemological beliefs and their behaviour and judgements concerning real life issues (Schommer-Aikins & Hutter, 2002; Sheehy, Budiyanto, Kaye, & Rofiah, 2017).

There is evidence to suggest that students' personal epistemological beliefs are reflected in the strategies they use in their academic studies, and that undergraduate students' epistemological beliefs might be a predictor of both their academic performance and their likelihood of reviewing courses favourably to others (Richardson, 2013). This conclusion is supported in questionnaire-based studies that show, perhaps not surprisingly, that students who hold epistemological beliefs that see knowledge being constructed by themselves, and where their ability can improve, employ relatively more effective study and problem-solving strategies and achieve higher levels of academic success (Çevik, 2015).

These beliefs appear to vary between different subject disciplines. For example, social science students have been found to be more likely to see learning as dependent on contextual factors and their own effort, whereas students studying health related subjects are more inclined to emphasise the importance of innate ability (Ismail et al., 2013; Tumkaya, 2012). These beliefs occur in a context where students' teachers and learning-resource creators also have their own epistemological beliefs, which influence how they teach and what they expect students to do within learning activities. Consequently, a key factor in a students' educational experience is the 'epistemic match' between their personal epistemological beliefs, their subject discipline and the pedagogic activities that they encounter (O'Siochru & Norton, 2014). It can therefore be argued that student engagement, satisfaction and academic success in higher education are influenced by their personal epistemological beliefs and how well (or not) these match with the epistemological assumptions of their disciplinary area and its teaching activities.

Another proposed influence on student engagement and success concerns the extent to which HE learning experiences are perceived as enjoyable and fun (Kuh, Kinzie, & Buckley, 2006). Consequently, it has been argued that that there is a need for research that examines students beliefs about fun in their learning (Whitton & Langan, 2018).

This study had two parts. Given the posited influence of epistemological beliefs there was a need for a structured review of research regarding their relationship with academic performance. This review highlighted a lack of research in the field of distance education and so, to address this gap, research with

a cohort of distance education students was undertaken. As the relationship between epistemological beliefs and fun in H E learning is not established, this research also considered the relationship between students' epistemological beliefs, enjoyment of their studies and beliefs concerning fun in learning.

Part 1. A review was carried out to consider two questions:

1. What evidence is there that students' epistemological beliefs have an impact on academic outcomes?
2. What are the implications for distance education students?

Method

A structured literature review was carried out. The term 'structured' (Armitage & Keeble-Allen, 2008) is used as this review did follow full systematic review protocol such as weighting articles with regard to effect sizes (Karolinska Institutet, 2017; Newman & Gough, 2020). This general method is well established for exploring educational issues (Rix et al., 2020). The protocol for this type of review, and the way in which it is reported in publications is well established (Zawacki-Richter et al., 2019). The transparency of this process is helpful for subsequent research that might build on or extend this database. In the context of the current reseach, the review acts to reveal what is known and not known about a phenomenon, identifying topics requiring investigation and validating the need for, and focusing, the subsequent research (Zawacki-Richter et al., 2019; Paré et al., 2015).

Two overarching databases were searched: Scopus and Ebscohost (which includes APA PsychInfo and ERIC databases). These databases were judged to give a sufficiently broad coverage. Scopus is the largest abstract and citation database for peer reviewed literature and scientific journals, and Ebscohost covers a range of large research databases encompassing education, humanities and social sciences.

The search terms used to identify potential studies were:

- Epistemological beliefs
- Higher education
- University students
- Distance learning or education
- Questionnaire
- Adults
- Conceptions of learning
- Epistemological development
- Survey
- Ways of knowing

The search results were screened by employing inclusion criteria to identify studies with a specific scope (a focus on students within Higher Education and epistemological beliefs). The inclusion criteria applied to the search results were:

- In English
- Available online
- Years: All [up to May 2018]
- Adults
- Higher Education

The exclusion criteria mirrored the inclusion criteria for example 'not adults', or "not within Higher Education". The exception to this was 'Distance Education' All studies returned from searches were documented in a spreadsheet and downloaded into bibliographic software.

In keeping with guidance for reviews (Xiao & Watson, 2019), screening was iterative and applied first to titles, then abstracts (in two iterative stages) and finally to the full documents. Two independent screeners carried out the screening of all titles and studies. A third, additional, independent screening took place of all the full papers. This graduated review and selection process created a 'descriptive map' of the studies.

Results

The process of selection is illustrated in Figure 1.

Figure 1. Selection of Review Articles

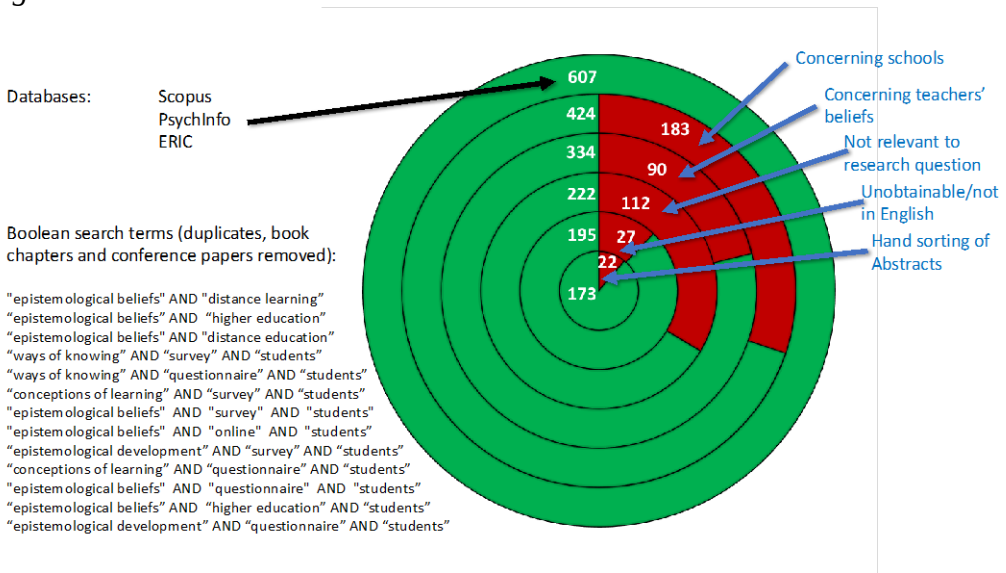

Figure 1 illustrates how 607 studies were initially selected, and the number of studies subsequently removed by the application of the exclusion criteria. This

resulted in 173 studies being selected for inclusion in the research review (Appendix 1).

Descriptive Analysis

As expected, in almost all cases the participants were full-time students who attended 'regular' universities or HE institutions. It was notable that only six studies diverged from this, being concerned with part-time distance education students (Fidan, 2016; Guven, 2009; Makoe, Richardson, & Price, 2008; Parrish & Linder-Vanberschot, 2010; Richardson, 2007, 2010).

Measures Used in the Studies

Reviewing the methods that were used across the studies revealed that ad hoc questionnaires were the most commonly used, being noted in 26 studies. In these cases, researchers generated their own question items, typically based on a literature review and/or drawing on expert and participants interviews.

Outside of these ad hoc questionnaire approaches a wide variety of methods occurred. The most popular approaches are illustrated in Figure 2.

Figure 2. The Most Commonly Used Approaches for Addressing Higher Education Students' Epistemological Beliefs

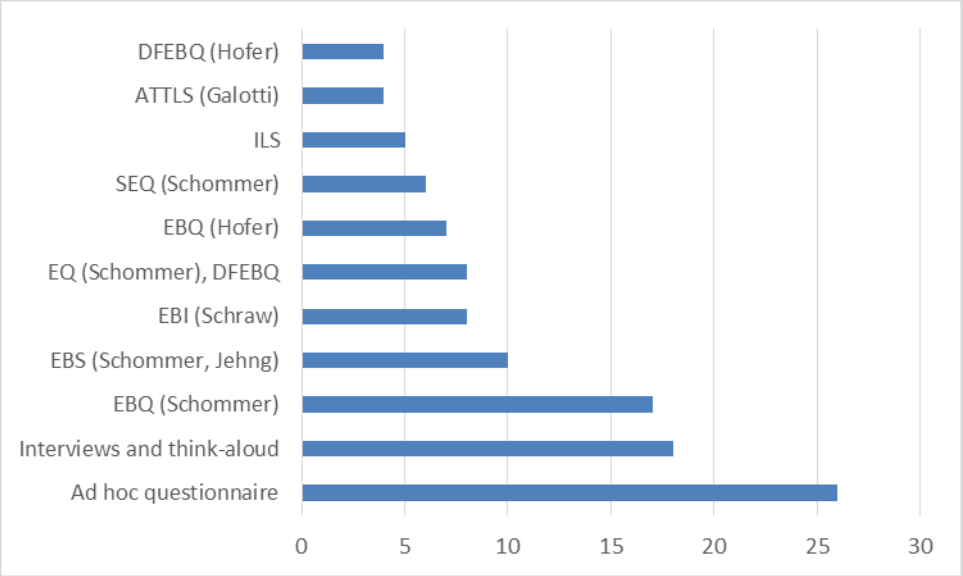

Figure 2 illustrates the most commonly used approaches for addressing Higher Education students' epistemological beliefs [Key: DFEBQ Discipline-Focused Epistemological Beliefs Questionnaire (Hofer, 2000); ATTLS Attitude Towards Thinking and Learning Survey (ATTLS) (Galotti et al., 1999); ILS Inventory of Learning Styles (Vermunt, 1994); SEQ Schommer Epistemological Questionnaire (Schommer, 1993); EBQ Epistemological Beliefs Questionnaire

(EBQ) (Schommer, 1994); EQ Epistemological Questionnaire (EQ) (Schommer, 1993); EB1. The epistemic belief inventory (EBI) (Schraw, Dunkle, & Bendixen, 1995); EBS Epistemological Belief Scale (Schommer, 1990)].

As Figure 2 illustrates, in terms of standardised questionnaires, Schommer's work appears to be particularly influential. However, differentiating between the various tools was not always straightforward as researchers may refer to the same tool using a different name. For example, some researchers referred to Schommer's EQ as the EBQ, however the term EBQ is more accurately used to indicate Hofer's work (Sheehy, 2015).

These different assessments and models of epistemological beliefs have been used in relation to mapping the development of participants' beliefs. Initial, or less well developed 'naive' beliefs (Erdamar & Alpan, 2013) are characterised by agreement that knowledge is certain or absolute and transmitted by an authority figure, and that learning ability is fixed. More developed beliefs have been defined as seeing knowledge created within a context, acknowledging its complexity, and that it is constructed through effort, evidence and experimentation (Erdamar & Alpan, 2013).

Assessment of Impact

The selected 173 studies were coded regarding the posited relationships between epistemological beliefs and academic outcomes. This initial coding identified studies that imputed a correlational or causal relationship. Of 173 studies, 43 studies presented evidence that epistemological beliefs significantly influenced students' academic outcomes. Typically, a regression analysis was carried out that identified that a particular measure of epistemological beliefs could predict another academic measure or performance outcome. For example, Marrs and Benton (Marrs & Benton, 2009) used ATTLS (Galotti et al., 2018) and found that epistemological beliefs significantly influenced students approaches to learning. This effect was supported elsewhere, for example, that students' epistemological beliefs (measured using EBI (Schraw, Bendixen & Dunkle, 2002) could predict their engagement with, and comprehension of, complex texts (Karimi & Atai, 2014). In line with this, students with more developed, complex, beliefs achieved significantly better results in their studies than those with more simple, naive, views of knowledge (Tolhurst, 2007). The relationship, between beliefs and study approaches, could be interactive, as illustrated in Tolhurst (2007), who found that engagement with small group active learning activities produced changes in students' epistemological beliefs (measured with EQ, Schommer, 1990). In 20 studies a correlational relationship was identified between students' epistemological beliefs and other factors, such as social background or locus of control. For example, the disciplinary background of students was associated with differences in their epistemological beliefs. Those with less complex beliefs favoured information transmission/teacher centred learning approaches. However, this variation was not necessarily uniform within disciplines, and students and academics even within the same discipline could hold different views of learning and knowledge (Päuler-Kuppinger & Jucks, 2017). Within discipline

areas, increased experience of tertiary education was associated with changes in the epistemological beliefs, and approaches to learning, of some (but not all students) (Rodriguez & Cano, 2007) and students use of online collaborative learning resources, was associated with developments in their epistemological beliefs, moving towards more complex, and less absolute, views of knowledge and an increased beliefs in collaborative constructivist ways of learning (Chan et al., 2013).

The findings of the research review suggested compelling evidence that that the epistemological beliefs of students have a significant influence on the strategies that they bring to their online studies, and how successfully they engage with curriculum activities. The findings also highlighted that the field of distance education is relatively unexplored. One feature of distance education is an increased incidence of students who do not complete their studies. Although this 'drop out' rate varies considerably between institutions and contexts it is significantly worse than found in traditional higher education provision (Bawa, 2016). Addressing this issue has been explored through various pedagogical and technological responses (Stone, 2017), and the importance of finding ways to improve student satisfaction have been highlighted repeatedly (Abuhassna et al., 2020; Bornschlegl, & Cashman, 2018). Reviews of student satisfaction, linked to successful study in traditional settings, indicate that many students choose their studies seeking personal enjoyment, and learn more effectively when classrooms are friendly and fun (Kuh, Kinzie, & Buckley, 2006). More broadly happiness, conceptualised in different ways, has been indicated as a central part of pedagogical beliefs in cross cultural research (Budiyanto, Sheehy, Kaye, & Rofiah, 2017). In the context of distance education, Richardson (2013) identified that epistemological beliefs were associated with the likelihood of students reviewing courses favourably to others (Richardson, 2013), having presumably enjoyed their study experience. This suggested a hypothesis that, as with traditional HE students, there is a relationship between distance education students' epistemological beliefs and their success and enjoyment of a particular course. Possibly related to this is the notion of fun in learning. The case that fun might be important within learning would seem to have face validity. For example within the field of physical activity and wellbeing fun is an important concept in determining motivation and participation (Agbuga, Xiang, & Mcbride, 2013). However within other learning contexts the relationship between fun and learning is contested and under-researched (Ferguson et al., 2020). Fun can be seen as being in opposition to meaningful learning (Ferguson et al., 2020) and having little value within Higher Education pedagogy (Whitton & Langan, 2018). From the perspective of epistemological beliefs, this raises the novel question of whether students' beliefs about the relationship between fun and learning are influenced by their personal epistemological beliefs.

Part Two. Therefore, part two of the research examined two issues.

1. Is there is a relationship between distance education students' epistemological beliefs and their enjoyment of a particular course?

2. Are students' beliefs about the relationship between fun and learning influenced by their personal epistemological beliefs?

Method

Self-report questionnaires are the predominant method of epistemological beliefs research (Schraw, 2013). Two broad approaches can be identified within this type of educational research (Sheehy, Budiyanto, Kaye, & Rofiah, 2017). The first is exemplified by Schommers' work, which addresses beliefs about the nature knowledge itself (Schommer, 1990). The second approach draws on developmental psychology and pedagogical theory, and can be seen in research such as that carried out by the Organisation for Economic Co-operation and Development (OECD), who researched teachers' epistemological beliefs across 23 countries and used items that distinguished between direct transmission and constructivist views of learning (OECD, 2009). This latter approach was chosen to underpin the development of the questionnaire for the current research, as it has a more direct and explicit relevance to students' teaching and learning experiences.

A questionnaire was created drawing items from existing questionnaires (see Appendix 1), with the addition of two 'fun in learning' questions.

Items 1-14 related to models of learning (Constructivist, Social Constructivist and traditional/direct transmission), and were taken from Sheehy and Budiyanto's (2015) development of the Theoretical Orientation Scale (Hardman & Worthington, 2000). Items 15 and 16 drew on Lee, Zhang, Song, and Huang's (2013) research, concerning innate/fixed ability and effort and process (Q22). Beliefs about the relationship between happiness and learning (Budiyanto, Sheehy, Kaye, & Rofiah, 2017) is reflected in Q18. Two items were developed concerning fun. Q19 'Successful learning involves fun' and Q20 'fun hampers learning'. Finally Q20 asked if students enjoyed their current module.

Procedure

An anonymous online questionnaire was developed using Qualtrics™. An invitation to participate in the study, along with information about the study, was posted on the 'news' space of one Level 1 (First year) University module. In this way approximately 4,000 students were potentially able to read the invitation, of whom 550 participants completed the questionnaire. This suggests a response rate of approximately 14%, which is comparable to other studies of Level 1 undergraduates at the same university (Ellis, Gallagher, & Peasgood, 2018; Fayram et al., 2018).

The research followed the British Psychological Society ethical guidance (British Psychological Society, 2014) and was given a favourable opinion by the Human Research Ethics Committee of The Open University.

Participants

The 550 participants were Level 1 undergraduates from an online education course (E102: Introduction to Childhood Studies and Psychology) offered by The Open University (United Kingdom).

Pedagogic Context

The Open University (United Kingdom) was established in 1969 to provide distance education, utlising pedagogical and techonological expertise. It has led the mainstreaming of tutor supported e-learning to become one of Europe's largest univeristies (Pulker & Papi, 2021). The participants were studying Level 1 (first year) course, whose pedagogy is interactive and explicitly offers '..a range of interactive online activities throughout the module to support your learning..' [http://www.open.ac.uk/courses/modules/e102]. These activities encompass interactive forums, tutorials, quizzes and interactive teaching materials.

Part 2 Findings

The collected data were examined for conducting a principal components analysis (PCA). They were confirmed as suitable (Bartlett's test of sphericity, $p>0.001$) and the sample size was greater than the required minimum (MacCallum & Widaman, 1999). A Kaiser–Meyer–Olkin test of sampling adequacy gave a score of 0.760, indicating that reliable factors could be extracted. Therefore, a PCA with Varimax rotation was carried out

Informed by a scree plot, six components were extracted, and items values below 0.25 were screened out (see Table 1). The six components account for 55.3% of the variance (approximately 18.5%, 9.5%, 8.3%, 7.3%, 6.1% and 5.3% respectively). The degree of variance explained is comparable to and larger than that that found in other epistemological research, for example (Castéra & Clément, 2012; Maier, Greenfield, & Bulotsky-Shearer, 2013).

Table 1. Rotated Component Matrix

Rotated Component Matrix[a]

	Component					
	1	2	3	4	5	6
2S_collaborative-learn	.810					
4S_productive_talk	.764					
1Socially engaged	.716					
3Social_production_knowledge	.582					
6Teach_clear_answer		.831				
7Teach_facts		.784				
5Teach_correct_solution		.716				
18F_must be_happy			.852			
19F_Learn_involves_Fun			.730			
9F_enjoy_learn			.722			
10Learn_find_solution				.739		
11Learn_think_solutions				.694		
12Learn_reasoning				.618		
8Teach_inquiry				.514	-.287	
17Teach_single_way					.728	
20Fun_can_hamper					.647	
16Taught_according_intelligence					.581	
14L_not_stay_average						.691
15L_depend_effort						.654
21F_enjoy_E102	.292					.497
13L_not_fixed					-.381	.481

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 6 iterations.

The 6 extracted components map clearly onto the different groups of epistemological beliefs contained within the questionnaire. The components also indicate significant relationships between particular epistemological beliefs and students' enjoyment of the course.

Component 1 reflects Social Constructivist beliefs, which sees learning as a social process, and these beliefs are associated with an enjoyment of studying E102. Component 2 reflects a traditional Transmission view of learning. Component 3 reflects a belief in the importance of positive emotions in learning: [To learn effectively, students must enjoy their learning, to learn effectively, students must be happy whilst learning, Learning should involve fun]- within the activity, the experience of learning and themselves. Component 4 reflects a constructivist view of learning, though problem solving and developing reasoning skills. Component 5 indicates beliefs that see learning ability as innate and fixed. [Students' educational potential is fixed at birth]; that they should be taught according to [these fixed] intelligence levels, using a single approach and the teacher's role is not to facilitate

students' own inquiry, and these are associated with a belief that fun hampers learning. Component 6 contains beliefs in personal development through learning - that learning ability is not fixed, how much students get from their learning depends mostly on their effort, and a belief that students who begin university with 'average' ability do not remain 'average' throughout their studies. These beliefs are significantly associated with enjoying studying their current course.

A post hoc comparison of students who did and did not enjoy the module complements these findings. The responses of the group of students who did not respond positively to the module were examined using a t test (de Winter & Dodou, 2010, for the rationale). This indicated that this group contrasts with those who enjoyed the module primarily in relation to social constructivist beliefs. Their responses differed regarding how much they valued collaborative learning [e.g., 31.5 % vs 58% agreed that students learn best through collaborative activities respectively] ($p<0.001$, two-tailed, independent samples t test) and significant differences were found in relation to the other social constructivist items: Social production of knowledge ($p<0.005$, two-tailed, independent samples t test) and Productive talk ($p<0.001$, two-tailed, Ind. samples t test). Correspondingly, the group who did not enjoy the module also appeared to hold different beliefs about the potential for personal development. This was evident in the differences (with the 'enjoyed the module' group) on items: Learning ability is not fixed, where the 'not enjoy the module' group were significantly less likely to agree ($p<0.005$, two-tailed, independent samples t test), and Learning depends on effort ($p<0.005$, two-tailed, independent samples t test). These differences complement the PCA, in that social constructivist beliefs (Component 1) and beliefs in the possibility of learners abilities improving (Component 6) were associated with an enjoyment of the course,

This confirms that a significant relationship exists between students' epistemological beliefs and their enjoyment of the module. Students who hold stronger social constructivist beliefs are more likely to enjoy the module that those who don't. In addition, those who believe that learning ability is not fixed and that their learning depends in their own effort are more like to enjoy the module.

Previous research has shown that epistemological beliefs vary between subject areas, and change with level of study (Sheehy, 2015). A nonparametric analysis was used to examine the relationship between students' areas of study (intended degree pathway) and their epistemological beliefs. This found that, overall, students from different disciplines of distance education study did not respond significantly differently on their responses to the epistemological belief items. Similarly, examining students' previous highest level of study found that this did not appear to be associated with differences in their responses to the epistemological beliefs items. However, their previous study did have an effect in relation to their responses to the 'enjoyment of E102' question Whilst nearly all students enjoyed the module, those who enjoyed it the most had previous level 2 experience (Kruskall Wallis, $p<0.03$).

Discussion

This research makes an original contribution to understanding the factors that influence the success of higher education students' online studies.

Firstly, the literature review makes explicit an existing body of work which indicates the significant impact that students' epistemological beliefs have on their study strategies and outcomes. In doing this it identifies the notable absence of similar research within the burgeoning area of online HE provision. Secondly, empirical data collected in examining the epistemological beliefs of 'online' HE students, which identifies the importance of these beliefs within distance education. Given the increasing importance worldwide of this type of provision, our research indicates that the epistemological beliefs of distance education students merit becoming part of HE researchers agenda.

The empirical findings reveal a clear and significant link between students' epistemological beliefs and their enjoyment of the module they were studying. Those whose beliefs could be described as social constructivist were more likely to enjoy the module they were studying. This implies that there is an 'epistemic match' between their personal epistemological beliefs, their subject discipline and the pedagogic activities they encounter (O'Siochru & Norton, 2014). This idea is supported by the module's extensive provision of interactive teaching materials and activities, [http://www.open.ac.uk/courses/modules/e102]. Students who believe that much learning occurs through collaboration and interaction, will presumably feel that these sorts of teaching approaches are appropriate and valuable for their own development. In contrast, students whose personal epistemological beliefs are largely transmissive in nature, are less likely to see the value of these activities for their own learning. It seems reasonable to suggest that, consequently, these students are less likely to review the module favourably and are at a relatively increased risk of disengaging from this form of study. This raises the question of how one might address this situation and increase the likelihood of a successful study experience.

A suggestion has been made that making HE student's learning activities fun and enjoyable would promote engagement and study satisfaction and, because it is an under researched area, that there to research students beliefs about the place for fun in their studies (Whitton, & Langan, 2019). Our research contributes to the search for a better understanding by offering a new perspective on this issue, which suggests that a more nuanced picture of the situation is required than currently exists. We have found that epistemological beliefs are associated with different beliefs about module satisfaction and also the place of fun in learning, in the context of online distance education. Students who hold the associated beliefs captured in Component 1 (see Table 1) were most likely to enjoy their study experience, and those holding the beliefs reflected in Component 5 (see Table 1) believe that fun can hamper their learning.

The implications of this are that understanding students' personal epistemological beliefs has potential for acting as an indicator of student satisfaction before they begin a course of study or module, using the concept of epistemic match.

This is an important finding for distance education and contributes to a way of addressing the long known 'damaged planes' issue (Wald, 1943). This issue acts as a metaphor for a problem faced by distance educators seeking to understand and promote student success and positive experiences (and hence positive student reviews).

Wald was looking to improve the safety of war planes during World War II. He realised that the traditional approach to this issue was flawed through a form of selection bias, namely that engineers could only examine the planes that had managed to return to base. They looked at the nature and location of any shot damage, and improved new planes accordingly. They reinforced areas that had been hit the most. Wald realised the holes indicated where aircraft could be hit and still fly home. His counterintuitive decision was to reinforce the areas which had not been hit, which proved successful.

In distance education it is common practice to carry out student satisfaction surveys and to use this feedback to inform course development. Responding to these surveys is seen as a pillar of ensuring quality online education and addressing the major goals of reducing student drop out and improving success (Ali, Ramay, & Shahzad., 2011). An issue in achieving these goals is that researchers typically sample students who are still engaged with, or successfully completed, a module (Kara, Erdoğdu, Kokoç, & Cagiltay, 2019). Those students who have ceased to engage with a course or have dropped out are not sampled. This selection bias may be a factor that undermines both our understanding of factors that contribute to success and attempts to tackle the 40-80% drop out rates which some distance education researchers have identified (Bawa, 2016). Whilst the current study is similarly, and necessarily, flawed in respect of sampling engaged students, its findings offer a potential means of predicting which courses/modules a particular student will enjoy or not, and whose learning activities they will value or not, based on their epistemological beliefs.

Although this study contributes to an improved understanding of student's belief about fun in learning, it raises some difficult issues for educators seeking to act on this. One way to improve students' study experience might be to facilitate the development of their epistemological beliefs, for example from a transmission view to a more socially based view of knowledge and learning. This idea is underpinned by a belief that there can be a developmental progression in HE students between simple 'naïve' beliefs and more sophisticated ones (Richardson, 2013). This approach is illustrated, in traditional HE settings by the work of Florian & Rouse with teacher education students (Florian & Rouse, 2009). Their approach utilized structured reflection activities that helped students move away from direct transmission/traditional epistemological beliefs (Brownlee, Purdie, & Boulton-Lewis, 2010; Florian & Rouse, 2009). The aim of this approach is seen not as categorizing some people as having the 'wrong' beliefs but giving them opportunities to develop their beliefs. However, the curriculum activities and pedagogy clearly seek, and are designed to, support change. There is an ethical dimension to whether and how one might choose to influence the development of students' epistemological beliefs (Sheehy, 2017). In essence there is a choice for educators between seeking to develop or change students' personal epistemological

beliefs or to create learning expectations that acknowledge a diversity of beliefs. There is unlikely to be a universal solution to this issue, given the epistemological diversity that exists in different higher education disciplines (Ismail et al., 2013; Tumkaya, 2011). There are also clear cultural differences, such as those revealed in the Organisation for Economic Co-operation and Development (OECD) survey of teachers across twenty-three countries, which found that beliefs in direct transmission and constructivism (OECD, 2009) varied markedly between countries. In some countries' responses fell into transmission vs constructivism categories (OECD, 2009, p. 95). However, in other countries this division did not occur (OECD, 2009) and it has been argued that the idea of constructing (or implying) some beliefs as better than others, is flawed because it is based solely on a western perspective of education (Hofer, 2010). The implications of understanding this broader context are that care is needed in generalizing the findings of the current research to other contexts. However, they do have validity in relation to UK distance education students. Furthermore, within the literature review there is evidence that different study approaches, reflecting underpinning epistemological beliefs, lead to different outcomes from academic study. This implies that some personal epistemological beliefs are likely to be associated with better outcomes. In this context developing student epistemological beliefs that create a better epistemic match with modules across their degree programme could support better outcomes. The findings from this research challenge the idea that simply creating learning activities that are fun would necessarily benefit all students. For students who hold a transmissive view of learning, such attempts are likely to be seen as having relatively little merit. However, this suggests a novel idea for future research, whether developing epistemological beliefs might also impact on students beliefs about fun in learning and thereby their enjoyment of their study activities.

How educators respond to these ideas when seeking to improve students engagement will reflect their own epistemological beliefs, whether this be to develop or change students' personal epistemological beliefs, to create learning expectations that acknowledge a diversity of beliefs or select, match or even screen out students for specific courses. Similarly, choices educators make about the use of 'fun' will also reflect their epistemological beliefs. So, whilst some may assert that fun is 'unsuitable in the 'serious' business of Higher Education' (Whitton & Langan, 2018, p3), the current study presents a more nuanced picture and supports research by Ferguson et al. (2020) in challenging this belief by presenting evidence that this is not a universal truth. It goes beyond this research by revealing how epistemological beliefs are related to beliefs about the role of fun in learning.

Conclusions

The findings from this study indicate that student engagement, satisfaction and academic success in higher education are related to their personal epistemological beliefs and how well (or not) these match with the epistemological

assumptions of their disciplinary area and its teaching activities. It also identifies a lack of research concerning this issue within distance education research. Findings from a cohort of distance education students indicate that their epistemological beliefs influence the degree to which they enjoy the studies, and their beliefs about the role of fun in their learning. This offers a more nuanced understanding of these issues than currently exists by identifying the impact of specific types of belief on students' study experiences. Whilst offering insights that might be used to help educators support students, it also highlights that making these changes raises challenging ethical issues. Lastly, by revealing the link between epistemological beliefs and perceptions of the role of fun in learning, the study indicates a new area of distance education research, a new way of understanding beliefs about fun in learning, and why this is an important factor in HE studies.

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Appendix 1

Questionnaire Items

1. Meaningful learning occurs when students are engaged in social activities
2. Students learn best through collaborative activities.
3. Learning can be defined as the social production of knowledge
4. Helping students to talk to one another productively is a good way of teaching.
5. Effective/good teachers demonstrate the correct way to solve a problem.
6. Teaching should be built around problems with clear, correct answers.
7. The teacher's role is to teach facts
8. The teacher's role is to facilitate students' own inquiry
9. Students should enjoy learning
10. Students learn best by finding solutions to problems on their own.
11. Students should be allowed to think of solutions before the teacher shows them how they are solved.
12. Thinking and reasoning processes are more important than specific curriculum content.
13. Students' educational potential is fixed at birth.
14. Students who begin university with 'average' ability remain 'average' throughout their studies
15. How much students get from their learning depends mostly on their effort
16. All students should be taught in homogenous classes according to their intelligence.
17. I believe there should be a single teaching method applicable to all learning situations.
18. To learn effectively students must be happy
19. Effective learning involves fun
20. Fun activities can get in the way of student learning
21. I enjoy my current course.

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Using Teacher Presence in Online Higher Education to Foster Global Citizenship among Adult Learners

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Higher education institutions must recognize the responsibility to support online adult learners as members of a larger global community and technological advancements have made this a reality. COVID-19 restrictions to in-person learning highlighted the need for online learning platforms that promote the benefits of teacher presence, consider the tenets of the Community of Inquiry model, and commit to the principles of andragogy. A need to explore the possibilities for fostering global citizenship among adult learners in online higher education environments has been identified as a problem space and a methodological approach will be used to connect findings from the literature with best practices for practitioners. Global citizenship is not a new concept; however, current and worldwide events have created a renewed dedication to the construct. Discussions based on the literature and established theoretical frameworks will precede practical implications for directors, course designers, and instructors. Online education will be described as ripe with opportunities for higher education institutions to foster global citizenship among adult learners.

Keywords: global citizenship, online education, adult learners, higher education, Community of Inquiry, teacher presence

Adult Learners

Online higher education has been on the rise as a result of technological advancements and a growing population of adult learners. There is a problem space or a need to explore the possibilities for fostering global citizenship among adult learners in online higher education environments. The United Nations (n.d.) recognized the responsibility of higher education institutions to support learners regarding their membership in the larger global community. Institutions utilizing online learning platforms are poised to promote this mindset and help learners capitalize on far-reaching opportunities. Online adult learners are best supported when practitioners build upon the principles of andragogy coupled with theoretical frameworks specific to online higher education (Knowles, Holton, Swanson, & Robinson, 2020). One theoretical framework that has received attention for its direct application to online education is Community of Inquiry (CoI) (Diep et al., 2019). The authors will investigate one aspect of CoI, teacher presence, and draw implications based on experience working in online higher education. Shutdowns due to COVID-19, an infectious disease caused by the SARS-CoV-2 virus (World Health Organization, 2019), enhanced the focus and accelerated the time frame for

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institutions to provide ways for students to connect with a larger, more global community. To address students' feelings of isolation, Tan (2021) suggested teacher presence is especially important and impactful during the recovery period following the pandemic. A methodological system was employed to establish a problem space, situate the problem within a theoretical framework, and draw implications for practitioners that are supported by the literature as well as personal experience. The authors hope to inspire higher education directors, designers, and instructors working in online environments and promote the tenets of teacher presence to support adult online learners and foster global citizenship.

Global Citizenship

Global citizenship models have become increasingly more popular with the development of the internet and other technological advancements (Akkari & Maleq, 2019). According to the authors, "The concept of *citizen of the world* is not a new idea and can be traced back to cosmopolitan cities that have produced philosophers, writers, artists, and thinkers able to see identity across national, cultural and linguistic boundaries" (p. 176). Since the turn of the century, this concept has gained popularity as activists have attempted to address 21st-century challenges spanning the globe such as civic and citizenship education (Akkari & Maleq, 2019). The United Nations (n.d.) suggested, "Global citizenship is the umbrella term for social, political, environmental, and economic actions of globally minded individuals and communities on a worldwide scale" (para.1). More simply put, global citizenship was referenced as a "shared sense of identity and human values" (Akkari & Maleq, 2019, p. 176). The United Nations (n.d.) proposed, "Universities have a responsibility to promote global citizenship by teaching their students that they are members of a large global community and can use their skills and education to contribute to that community" (para.2).

In September, 2015, the United Nations Educational, Scientific and Cultural Organization (UNESCO) adopted seventeen goals for sustainable development to be implemented by 2030 (Moul, 2017). Sustainable development goal number four focused on quality education. At the heart of this goal was global citizenship education (Moul, 2017). Such initiatives advocate for and highlight the importance of developing global citizenship in college classrooms. The Association of International Educators, once known as the National Association of Foreign Student Advisers (NAFSA) suggested that all universities and colleges desire to prepare global citizens and provide evidence of this through mission and vision statements alike (Connell, 2016). The interest in offering courses founded in global studies has increased as has the enthusiasm to learn about other cultures. The Association of American Colleges and Universities conducted a study in 2015 and discovered that nine out of ten higher education institutions identified learning about other cultures as a top priority (Connell, 2016). Information such as this supports the relevance and timeliness of using online learning platforms grounded in adult learning theories to enhance global citizenship efforts.

Online Education

In 2020, the Novel Coronavirus-2019 forced many K-12 and postsecondary schools across the United States of America and around the globe to transition from in-person learning to distance learning. Milman (2020) suggested feelings of uncertainty as many traditional learning environments shifted online. House-Peters et al. (2017) referred to distance learning as education that transpires when the teacher and the learner are not physically in the same location. Distance learning has included correspondence learning whereby the learner reviewed videos, audio recordings or modules and returned completed work via mail correspondence (House-Peters et al., 2017). Distance learning has evolved to what is now known as online learning (Palvia et al., 2018).

The terms "online learning" and "online education" are often used interchangeably. According to Zalat, Hamed, and Bolbol (2021), "online e-learning is described as learning experiences using various electronic devices (e.g. computers, laptops, smartphones, etc.) with internet availability in synchronous or asynchronous environmental conditions" (p. 1). Broderick (2020) defined online education as, "Teaching and learning occurring primarily or entirely in an online (internet-based) environment" (p. 6). The authors of this paper are higher education online professors; therefore, will default to using the term, online education, throughout the paper.

Online education has helped bridge the gap between geography and education for some students as the physical distance obstacle has been removed (House-Peters, Del Casino, & Brooks, 2017). The authors continued to recognize the expanding diversity of the higher education student pool in online education classrooms, including mobility challenged individuals, employed individuals and lower socioeconomically able persons. Therefore, online education has the ability to connect learners on a global level unlike traditional educational platforms (House-Peters, Del Casino, & Brooks, 2017).

Online Adult Learners

Prior to an examination of the specific population of online adult learners, adult learners, regardless of modality, will be discussed. Historical and contextual background provides fodder for considering the proliferation of educational research on every subgroup and variable affecting the field. The term, andragogy, is widely used to narrow the conversation to that which affects adult learners, and attempts at defining and labeling this population have been carried on for decades.

Andragogy and Influences on Adult Learners

The term, andragogy, is defined as the art and science of teaching adults, and is a concept set apart from pedagogy, which encompasses the skills associated with teaching children (Knowles, Holton, Swanson, & Robinson, 2020). While Knowles did not coin the term, he has popularized it in Western culture and

brought attention to the merits associated with paying attention to that which influences adult learners (Ekoto & Gaikwad, 2015). The idea that adults learn differently than children do dates back to 1833 and the work of Alexander Kapp, a German educator (Ekoto & Gaikwad, 2015; Oyeleke & Adebisi, 2018), and if adults learn differently, then the process of educating adults must be done differently (Knowles, Holton, Swanson, & Robinson, 2020).

Knowles provided six characteristics for educators to consider as influential factors specific to adult learners (Ferreira & MacLean, 2017; Knowles, Holton, Swanson, & Robinson, 2020). The first influence is referred to as a learner's "need-to-know" and is focused on establishing value for the learner (Knowles, Holton, Swanson, & Robinson, 2020). This concept is supported in the literature, and Ferreira and MacLean (2017) wrote that adult learners prefer seeing the connections between what they are learning and the personal and professional benefits of it. Next, Knowles, Holton, Swanson, and Robinson, (2020) listed a learner's "self-concept" as a key influence and likened this to an existing level of self-awareness not typically formed in children. Third, the authors mentioned a level of consideration for "prior experiences" as paramount when working with adult learners. Similarly, Zhou et al. (2021) referred to the adult learner's unique ability to scaffold on past experiences and highlighted the importance of this constant building upon previous learning as essential to the learning process. Another key influence on adult learners was referred to by Knowles, Holton, Swanson, and Robinson (2020) as "motivation to learn" and was linked most directly to intrinsic forms of motivation. With this, a sense of personal enjoyment in the learning process is important to adult learners (Ferreira & MacLean, 2017). "Readiness to learn" is another key influence, and Knowles, Holton, Swanson, and Robinson (2020) aligned this with an adult learner's need for immediate and practical implications. The developmental stage of the learner cannot be removed from the equation; rather, it should be considered part of the picture and the landscape of learning (Ferreira & MacLean, 2017). Finally, a learner's "orientation to learning" will influence the experience; thus, active rather than passive involvement is optimal (Knowles, Holton, Swanson, & Robinson, 2020). Cochran and Brown (2016) highlighted a need to provide flexible methods for allowing adult learners to display their understanding of the content placing them at the center of their own learning. The six influences described by Knowles, Holton, Swanson, and Robinson (2020) are supported in the literature and have been studied, along with other concepts and theories, in an attempt to better understand and serve adult learners.

Defining Adult Learners

One absolute or working definition of what it means to be an adult learner is difficult to find in the existing body of literature, but a brief historical overview of education in America will provide context prior to discussing attributes of this important population. American grammar schools date back to 1635, and in 1770, the common school was introduced as part of an initiative to reinforce democracy (Crooks, 2020). The landscape of American education has changed over the last

century. This can be seen in higher education as the number of students has risen tremendously from 3% of adults over the age of 25 having a post-secondary degree in 1910 (Hanson, 2021) to 32.1% in 2019 (Nietzel, 2021). According to the National Center for Educational Statistics (NCES) (2021), in 2019, students ages 25 and older enrolled in full-time Public University was 62% of the total higher education population (2021). This number was even larger for private, non-profit universities at 68%. This number continued to climb in examining private, for-profit universities where 91% of the enrollment was comprised of learners over the age of 25. An interest in higher education and adult learning dates as far back as 1926 when the American Association of Adult Education was established (Knowles, Holton, Swanson, & Robinson, 2020). Many have contributed to the understanding and improvement of education, to include higher education, and adult learners represent a key population within higher education.

One starting place in an attempt to define or, at minimum, describe adult learners has researchers and institutions focused on the chronological factor of age and the widely accepted delimiter that adult learners are those age 25 and older, which introduces the notion that there is a distinction from those considered traditional undergraduate students, ages 17-24 (Kasworm, 2018). Knowles, Holton, Swanson, and Robinson (2020) listed other ways adult learners have been delineated: (a) by legal age at which certain responsibilities are understood, (b) by social status in terms of adult behaviors such as marriage, or (c) in psychological terms regarding maturity and even self-realization.

In the past seventy years, phenomena specific to the population of adult learners have been studied and one discovery consistent in the literature is a desire of adult learners to be recognized as significant (Hunt, Rasor, & Patterson, 2019; Kern, 2018). Kasworm (2018) posited one possible explanation for this determination, that being the amount of importance placed on understanding and catering to the more traditional undergraduate student population. The author discussed a number of additional factors, one being a one-size-fits-all approach regarding expectations, policies, procedures, services, and access points for undergraduate and adult learners, an approach fraught with potential challenges.

Efforts to compartmentalize adult learners, for the sake of research, are complicated by the span of generations currently affected, each generational subgroup bringing with it the influences and learning traditions rooted in decades of experience (Holyoke & Larson, 2009). Cultural norms and differences also add to the complexity and scope of definition attempts. A common term for this reality is cultural confusion (Kasworm, 2018). Endeavoring to describe adult learners according to traits typically falls short, and Kasworm (2018) lamented that it is no wonder adult learners feel a sense of disconnectedness when they fit some but not all possible labels, such as the following: re-entry, non-residential, non-traditional, evening or weekend, adult degree, e-based, or distance learning.

A contrast to narrowing or clustering adult learners into labeled boxes is the appeal to meet each adult learner where he or she is and recognize each as arriving with a unique set of experiences and goals that cannot be forced into a defined role. This does not negate the need for research, models, and frameworks focused on how best to serve adult learners, but it does require a different, more inward-

focused lens than the traditional one that starts first with a definition and moves outward. Diep et al. (2019) applied this concept when suggesting a number of models or theories be considered to support - more so than define - adult learners. One such theory is Community of Inquiry, a framework that applies three presences: cognitive presence, social presence, and teaching presence (Fiock, 2020). The CoI framework is most often applied when studying the population of online adult learners, a growing subset of students that cannot be ignored in social science and educational research (NCES, 2017).

Theory

To continue with the methodological approach, the problem space - a need to explore the possibilities for fostering global citizenship among adult learners in online higher education environments - will be further explored and solutions will be suggested based on findings from the larger body of literature. Educational research is situated within the larger scope of the social sciences, a field focused on human phenomena. To discuss topics in an empirical and scientific manner, frameworks and theories are used as a conduit for narrowing and measuring constructs that are, in and of themselves, not quantifiable. One such theory often applied in the context of educational research is Community of Inquiry.

Community of Inquiry

One popular framework in online education is the Community of Inquiry (CoI) theoretical framework developed by Garrison, Anderson, and Archer (2000). The CoI framework identifies three key components used in establishing meaningful learning for students - social presence, cognitive presence, and teaching presence - and is one of the most widely used frameworks for online education (Castellanos-Reyes, 2020; Fiock, 2020). The term "Community of Inquiry" has been present in higher education for decades as it has roots in collaborative-constructivist education (Garrison, 2009). Fiock (2020) suggested that the CoI framework considers the needs of adult learners and is beneficial for developing effective online education environments. Castellanos-Reyes (2020) suggested the need for CoI considerations at both the teaching and the planning stages. Yildirim and Seferoglu (2021) conducted a quantitative research study that looked at the effectiveness of online courses through the lens of a CoI framework. The authors determined a correlation between CoI elements and student satisfaction and academic success, thus confirming the importance of teaching and planning efforts that promote a sense of community in the online learning environment.

Social presence as maintained by Lowenthal and Lowenthal (2010) "is a theory that explains the ability of people to present themselves as real people through a communication medium" (p. 1). Garrison et al. (2000) claimed that social presence could be visible via three avenues: 1) emotional expression, 2) open communication, and 3) group cohesion (p. 89). Put another way, social presence or the sharing of one's authentic self could be accomplished by obtaining a social

identity, engaging in intentional communication, and building nurturing relationships (Kreijns, VanAcker, Vermeulen, & Buuren, 2014).

Cognitive presence is centered around critical thinking and includes an individual's ability to make meaning out of communicated learning (Garrison et al., 2000). There are four stages associated with cognitive presence: 1) a triggering event, 2) exploration, 3) integration and 4) resolution (Garrison, Anderson, & Archer, 2000, p. 89). Saadatmand et al., (2017) elaborated on this idea by suggesting that cognitive presence referred to the student's ability to personally interact with the content.

It is important to acknowledge that social presence and cognitive presence do not take place automatically or effortlessly, but rather, with the assistance of the final presence, teacher presence. Castellanos-Reyes (2020) suggested teacher presence was the instructor's organization and running of the class. Teachers were the supervising good shepherds of their classrooms. As an authority, Anderson, Rourke, Garrison, and Archer (2001) defined teacher presence as "the design, facilitation, and direction of cognitive and social processes" (p. 5). The author continued by noting that teacher presence included three key elements: 1) instructional design and organization, 2) facilitating discourse, and 3) direct instruction (Anderson, Rourke, Garrison, & Archer, 2001, p. 4). It would seem that teacher presence is a necessary component for effective social presence and cognitive presence to occur. Tan (2021) conducted a quantitative study on CoI factors and the impact of helping students recover during and after the shift to more online and less in-person education as a result of the COVID-19 pandemic. The study findings confirmed that teacher presence had the most significant impact regarding recovery which highlighted the importance of teacher presence in the online learning environment.

In the following sections of this paper, the authors will provide a closer analysis of teacher presence in the online adult learner classroom as it relates to fostering global citizenship. As claimed by Akkari and Maleq (2019), "Social networks are borderless and globalization has gone digital" (p. 179). Online educators have more opportunities than ever before to cultivate adult learners as citizens of a broader global world. Akkari and Maleq (2019) affirmed, "Individuals do not have an innate understanding of our shared humanity but learn this over time through socialization, education, and schooling. Global citizenship is therefore fostered through education" (p. 179). To this end, online instructors have a responsibility to enhance their teacher presence in the online classroom.

Teacher Presence: Implications Based on Experience in the Field

Teacher presence is not taught in an isolated fashion, but rather through overlapping and interwoven elements. For the purpose of synthesis, teacher presence will be examined through the following lenses: 1) course design, 2) instructional delivery and 3) assessment. The following sections will provide examples of ways teacher presence has impacted one university's approach

regarding design and implementation in the online learning environment. These will be discussed through the shared experience of two program directors.

Course Design

Course designers can only affect teacher presence to a certain degree by creating opportunities, so a challenge is the reliance on adjunct, contingent, or non-designer instructors (NDIs) to carry much of the responsibility (Silva, Shuttlesworth, & Ice, 2021). As curriculum writers and designers for online graduate-level courses, this issue has been addressed proactively based on an understanding of teacher presence. A meet-the-instructor area exists in the online classroom where instructors are required to post a picture, a welcome video, and a short biography with personal and professional background information. Weekly materials have been provided with pre-determined due dates, but an open invitation is given for instructors to post additional and supplemental materials based on their areas of expertise. Placeholders are provided for instructors to post a weekly announcement, written in the form of a friendly message highlighting important information for the new week. A general trend toward incorporating global citizenship elements in teacher training programs should encourage universities to incorporate required readings and subsequent discussions focused on global themes (Yemini, Tibbitts, & Goren, 2019).

Instructional Delivery

Digital and technological resources can enhance the learning experience for online students when teacher presence is used to create an environment of collaboration (Vaughan & Wah, 2020). Discussion Board threads are utilized each week where students are required to provide scholarly support for an initial response and then a minimum number of ongoing participation replies. Instructors are encouraged to participate in the dialogue, summarize student ideas, provide supplemental information, or introduce tangent topics. One practice that sets the program apart is the requirement for instructors to produce an informative instructor video to be posted at the start of each week. The goal for the videos is a balance between personal expertise as practitioners in the field and a preview of content and expectations for the week. Within each course, one assignment is intentionally designed to require a collaborative group effort. Group discussion boards and virtual breakout rooms are provided as platforms for student groups while instructors have access for overseeing purposes. Vaughan and Wah (2020) suggested that individual and group assignments contain a metacognitive element enhanced through teacher presence as students are encouraged to reflect on what did or did not foster growth both in terms of content and communication efforts. Reflective blogs, focused on required standards, are woven into the weekly tasks, providing students the opportunity to analyze their understanding of course content and the impact on their future practice. An element to further foster global citizenship, student accountability partners can be assigned, thereby turning an

online learning environment into an opportunity to support and collaborate using digital tools (Vaughan & Wah, 2020).

Assessment

One of the roles associated with teacher presence is the effective monitoring of classroom assessments, and this holds true in the online learning environment (Gallavan, 2020). Rapanta et al. (2020) noted inherent challenges for instructors when moving from a traditional to an online classroom, considering the focus on individualized learning. To address this as program directors, assignments are thoughtfully designed to include detailed instructions and accompanying rubrics to ensure expectations are clearly communicated. Teacher presence comes into play through assignment previews, virtual office hours, and individualized as well as group instructor feedback. Individualized assessment is very time-consuming for the online instructor due to the asynchronous nature of the learning environment. Therefore, templates, pacing guides, APA videos, writing resources, and rubrics are provided with the understanding that students must self-regulate and monitor their progress (Rapanta et al., 2020). Instructors must be proactive to address common errors based on prior trends. As course custodians, Subject Matter Experts (SMEs) create videos for instructors to watch prior to teaching and include proactive suggestions along with tips and tricks for successfully teaching the course. Program directors, SMEs, and instructors work in conjunction during the term to ensure expectations are met and academic rigor is maintained. Teacher presence is bolstered through assessment feedback measures. Global citizenship should be an intentional consideration when creating online assessment instruments (Borders, 2018). Within programs, candidates are encouraged to examine critical and complex issues through a variety of perspectives outside their personal or authentic work environment.

Best Practices: Online Education and Global Citizenship among Adult Learners

A need to explore the possibilities for fostering global citizenship among adult learners in online higher education environments has been supported by the literature and this will inform best practices for practitioners. In order to best serve adult students, it is important that higher education instructors consider adult learning theories when designing and delivering online education opportunities. One effective way to do this is by incorporating Knowles, Holton, Swanson, and Robinson's (2020) adult learner assumptions coupled with those concepts from the Communities of Inquiry framework in the online environment (Fiock, 2020; Garrison, Anderson, & Archer, 2000). In Table 1 are examples showing how this process could be achieved considering the teacher presence variable.

Table 1. Application Examples

Knowles' Assumptions of Adult Learners	**Community of Inquiry Framework: Teacher Presence**	**Practical Application Examples**
Need to Know	Teacher Presence	● Intentionally introduce students to the importance of the concept (syllabus/announcements/emails). ● Include clear directions and expectations for all assignments (rubrics/samples/instructor previews). ● Share course learning outcomes at the beginning of the course. ● Model error-free writing and professional communication. ● Support global learning skills through an up-front and complete look at the course objectives, outcomes, and expectations to allow for individualized learning (Knowles, Holton, Swanson, & Robinson, 2020).
Self-Concept	Teacher Presence	● Create collaborative, respectful learning environments where all opinions are welcome (ice breaker activities/scavenger hunts/netiquette rules/classroom norms). ● Provide opportunities for student choice in learning activities and assignments (topic options/differentiation in content, process, or product/grade- or state-specific standards) (Tomlinson, 2017). ● Preview program or course policies to avoid frustration due to surprises. ● Encourage students to use self- and group-reflective practices necessary in today's global and virtual learning environments (self-efficacy activities/empathy-focused prompts) (Vaughan & Wah, 2020).
Prior Experience	Teacher Presence	● Encourage collaboration and sharing of ideas and experiences (discussion boards/breakout rooms/group projects). ● Assess student experience in relation to the CLOs early on via verbal or written communication (journaling/survey/discussion board). ● Allow for immediate implications based on student experience or need. ● SMEs intentionally locate resources and materials that focus on global themes (Yemini, Tibbitts, & Goren, 2019).
Motivation to Learn	Teacher Presence	● Be active in the online classroom as students seek affirmation (respond to all students weekly/identify common trends/share additional resources/reply within 24 hours). ● Include self-reflective and metacognitive components in assignments (journaling/video reflection/ discussion boards/voice-over components). ● Provide clear, timely, and constructive feedback (instructor videos/phone calls/gradebook accuracy/discussion boards/announcements/emails). ● Strike a balance between professional and friendly tone. ● Prepare students to function effectively in the global arena (timely and relevant materials/virtual and technological communication skills) (Aktas, Pitts, Richards, & Silova, 2017).

Readiness to Learn	Teacher Presence	• Include ongoing authentic assessment and evaluation (positive tone even when setting high expectations). • Seek student input (make this specific and directed to avoid general confusion). • Demonstrate immediate implications for learning and invite students to share examples. • Use up-to-date information and revisit/revise curriculum on a yearly basis. • Move global education to a place of foundational importance due to the interconnected nature of higher education in the 21st century (Pais & Costa, 2020; Yemini, Tibbitts, & Goren, 2019).
Orientation to Learning	Teacher Presence	• Incorporate real problems to be addressed (Capstone/Thesis/ Culminating projects should be useful). • Design courses to be current and relevant. • Require students practice finding relevant literature and resources. • Explain how students get out what they put in. • Emphasize the need for virtual and technological skills based on global communication trends (International Telecommunication Union News, 2018).

Considerations

Knowles, Holton, Swanson, and Robinson (2020) suggested online education allows for more detailed student progress monitoring and assessment, provides enhanced simulation opportunities, affords greater instructional flexibility, and produces overall increased student retention rates. There is support for applying the CoI model when creating and maintaining online adult education programs (Castellanos-Reyes, 2020; Fiock, 2020). While all aspects of the CoI model have merit, the element of teacher presence should be considered during the planning, facilitating, and assessing stages and is especially important considering the rapid shift to online learning (Tan, 2021). Instructors must utilize technology in ways that encourage collaboration and the exchange of ideas even when the learning environment is virtual (Vaughan & Wah, 2020). However, online education, while commonplace in North America, may be less prevalent in non-English speaking countries (Gao, 2020). Online instructors must consider the barriers associated with early access stages of online education as they work with a more globally-based student body.

One common complaint or accusation regarding online education centers on the potential for isolation, and it can be a challenge to establish personal points of contact. The CoI model has been widely studied due to a concern for establishing communities of learning, even in the online learning environment (Garrison, 2009; Yildirim & Seferoglu, 2021). Much of the onus is rightly placed on the instructor to establish teacher presence, but opportunities should also be considered by course designers, SMEs, and program directors. One challenge regarding teacher presence is the expectation and pressure for the instructor to be available to students, 24/7. It is important that instructors set reasonable boundaries, clearly communicate their virtual office hours, provide and stick to return rates for emails

and assignments, and encourage students to trouble-shoot prior to reaching out with a question. Another challenge communicated often by online instructors is that the amount of feedback on student work feels open-ended. A solution is to train students to assume responsibility and self-monitor their own progress (Rapanta et al., 2020). Silva, Shuttlesworth, and Ice (2021) wrote about the possible disconnect between teacher presence opportunities, as intended by a course designer, and the ability of the instructor to successfully fulfill these expectations. Support systems among directors, SMEs, course designers, and instructors must be in place with the ultimate goal of injecting every course with the benefits of teacher presence. Most online adult programs rely heavily on non-design instructors (NDIs) and there are inherent challenges (Vaughan & Wah, 2020). When addressed proactively, not only can teacher presence be infused in online adult programs, it can also be used to foster best practices in support of global citizenship.

Conclusions

In this article, ways to foster global citizenship among adult learners in online higher education environments were explored. The authors used a methodological approach as a way to glean best-practice suggestions based on support from the literature and authentic experience. Since its onset, COVID-19 has placed online education at the center of educationally focused discussions as curriculum developers and educators imagine how to improve the online education experience for all learners (Gao, 2020). Given the advancements of technological platforms, higher education institutions must embrace the benefits of fostering communities on a larger and more global scale. The National Education Association (NEA) recognized the reality that individuals are more interdependent and connected virtually than ever before and, as a result, global citizenship should be an intentional consideration for the educational community (Borders, 2018). As a tool, online education can assist in strengthening global citizenship efforts. While linguistic, cultural, religious and other differences exist among and within countries, there are shared pedagogical and andragogic similarities that can be embraced in teaching and learning in the online classroom (Gao, 2020). Willett (2021) suggested that faculty members should build community in their classrooms as a way to support the most disconnected students; directors and course designers have a responsibility to set instructors up for success by considering theories and practices grounded in teacher presence. Intentional considerations for injecting teacher presence into course design, instructional delivery, and assessment measures can result in cultivating community in the online learning environment to support global citizenship among adult learners. Knowles, Holton, Swanson, and Robinson's (2020) six assumptions of adult learning pair nicely with the tenets of the Community of Inquiry model and therefore should be at the forefront regarding best practices in the online learning environment. The authors identified how teacher presence and Knowles' six assumptions of adult learners, when combined, can inform best practices for directors, course designers, and instructors.

Online education is a conduit for higher education institutions to develop global citizens by considering theoretical frameworks as well as practical models.

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Assessment of Distance Learning Practices during the COVID-19 Pandemic in Grades K-12

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This study aims to examine the distance learning practices carried out at the primary education level during the COVID-19 pandemic from students' and their parents' perspectives. The study was conducted with 76 primary school students at different grade levels, including their parents (76), in the state schools of Giresun city in the spring semester of the 2019-2020 academic year. The study was based on the case study method, one of the qualitative research designs. An information collection form with open-ended questions was used as a data collection tool. The data obtained from the information collection form were analyzed by the content analysis method. The findings have revealed that the distance learning system has a flexible structure and is accessible from any place, but there are difficulties accessing the system due to connection problems. These systems facilitate the teaching process, affecting learning positively. The findings also showed that distance learning systems are not favored by students who long for friends and teachers during the learning process performed on these systems. Unlike face-to-face training, disciplinary and supervision problems in distance learning are also noteworthy. The authors finally suggest that the distance learning and management process should be performed in a restrained manner to ensure the process to be run effectively and efficiently.

Keywords: distance learning, COVID-19, K-12

Introduction

Causing global disorder and chaos (Sun, Tang, & Zuo, 2020), the COVID-19 pandemic has adversely affected many areas such as health, tourism, economy, and education, which are directly related to human life in Turkey, as is the case for the rest of the world. Health and education are among the most affected areas during the COVID-19 pandemic (Hebebci, Bertiz, & Alan, 2020; Telli Yamamoto & Altun, 2020). Various measures were sought, and required changes were made on an unprecedented scale to minimize the COVID-19 pandemic's adverse effects on education (Gewin, 2020; Karakuş et al., 2020). The measures taken to limit the spread of the pandemic and maintain the social distance have made the education system stagnant as made so any other public systems, and educational institutions have had to suspend face-to-face education for a while (Daniel, 2020; Reimers & Schleicher, 2020). To overcome this stagnation, UNESCO has declared that governments should introduce alternative education tools and learning programs for students who cannot be present in school due to the pandemic-related emergency (Huang et al., 2020). Accordingly, educational activities have been

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digitized on the Internet, and teachers and students have been supported by distance learning, where they can use information technologies without any time and place restriction (Sulkowski, 2020; Hodges et al., 2020; Tian et al., 2020; Sözen, 2020; Balaman & Tiryaki, 2021). Additionally, UNESCO underlined that governments should provide digital resources to students, establish radio and television channels to broadcast education, including digital resources in educators' curricula (UNESCO, 2020).

Distance learning is a system developed based on individuals' deprivation of sufficient opportunities, materials, and teachers to ensure their education (Newby, Stepich, Lehman, & Russell, 2006). Such individuals desire to develop themselves culturally, academically, and professionally and have physical discomfort or disability with restricted access to education stemming from a physical distance (Sözen, 2020). Compared to face-to-face education, the distance learning process has such advantages as providing access to information to large masses without time and space restrictions, promoting flexible educational process with rich content (Bates, 2015), enabling learners to learn at their individual pace, providing easy and fast access to information (Moore & Kearsley, 2012), and reducing training costs (Bakioğlu & Can, 2014). However, lack of individual interaction and socialization (Tryon & Bishop, 2009), learning difficulties experienced in applied lessons, the reliability of measurement and evaluation, and technology addiction can be counted as drawbacks Although all these distance learning processes have similarities with face-to-face learning media, changing teacher/ student roles and classroom conditions in distance education are of importance. Also, the platforms to be used in the distance education process should be structured according to the purpose, content, method, and needs, and expectations of the student (Turan-Güntepe, 2020).

Distance Learning at K-12 Level During the COVID-19 Pandemic

Distance learning, which offers educational opportunities for large masses in various circumstances, has played a unique role in maintaining education with diverse tools during the pandemic process in Turkey, as was the case in other countries. In this sense, the courses, contents, and materials created on the online EBA platform, an integral part of the distance learning system, were made available to the students, enabling the systemic education performance (Kapıdere & Çetinkaya, 2017; Özer, 2020). Two weeks following the schools' closure due to the pandemic, three new TV channels were introduced for distance learning: EBA Primary School, EBA Secondary School, and EBA High School. Weekly course programs are structured, and regular training is given to students via the Turkish Radio and Television Corporation (TRT) and EBA TV. The EBA content portal (www.eba.gov.tr) allowed easy access to EBA TV both on television and on the Internet.

Distance education in Turkey first started with asynchronous courses on TV, and then synchronous courses were included in the education system. As of April 27, 2020, all students from the third grade to the twelfth grade have started to get daily synchronized lessons at different times of weekdays. To access these

courses, teachers and students should create their respective EBA user accounts. Following the teachers' signing in EBA, they can give synchronized lessons defined by the school administrators, and then their students can attend the synchronized lessons defined by the teachers when they (the former) log in with their usernames. Synchronous lesson software available to teachers has features such as whiteboard application, screen sharing, turning on/off student voices, managing students' media sharing, drawing permissions, and their webcam use. Teachers can assign homework to students at the end of the synchronous lessons via the EBA system using methods like lecture videos and multiple-choice questions (MEB, 2020a). Accordingly, the EBA platform is used especially for asynchronous education, while the EBA TV, EBA live classroom, and alternative applications are preferred for synchronous education at the K-12 level during the pandemic (MEB, 2020b). MEB, which also includes artificial intelligence technologies in the distance learning process, has created the "EBA Assistant program" to instantly answer students' and parents' questions about distance learning and answered their questions directly (MEB, 2020c). Additionally, the smart guidance module called "Academic Support" has been introduced to the 11th and 12th grades. Thanks to this module, students were directed to lecture topics and videos or question-solving activities in line with their goals (YEĞİTEK, 2020).

Stakeholder Roles in Distance Learning

As educators, teachers need to be aware of their roles in distance learning, developing their qualifications for these roles. Berge (1995) stated, in this sense, that for the learning-teaching process to be successful, adequate attention should be paid to pedagogical, social, administrative, and technical roles. The following teacher-related issues are reviewed under the pedagogical roles such as making new instructional designs in accordance with the nature of distance learning, ensuring interaction within the teaching community, keeping students motivated at a high level, combining current technologies with teaching methods, and organizing assessment tools in the teaching process. Social roles cover certain roles like promoting students' level of social interactions with each other, creating sense of community, attaining sufficient knowledge about the curriculum, and guiding students. Some examples of the teacher's technical roles in the distance learning process can be cited as their ability to use current technologies without technical problems, providing support to students in case of such problems, performing skills like lesson planning, preparation, and management in terms of managerial roles (Liu, Hertzmann, & Popović, 2005).

As teachers' roles, students' roles have also changed in the distance learning circumstances. Distance learning platforms require students to participate in learning activities in online environments, interact with the teacher and other learners, and become a member of the learning group by participating in discussions. Also, students' taking responsibility for the learning process, having research skills, using learning tools effectively and asynchronously -in other

words-being a self-learning individual would positively affect the process (Dabbagh, 2007).

Parents have been taking on social, educational roles more than face-to-face environments in order not to leave the students alone by supporting them during the new normal dictated by the pandemic. K12 grade students' parents had to undertake roles directly related to learning and teaching as well as educational, social roles. Furthermore, these parents to be repositioned in the education system in schools and to recognize their new roles are of great importance. This role change can be initiated from the center and spread towards the periphery as K12 level schools are managed by a central governmental body, the MEB. Besides, providing learners and teachers with new skills and competencies, teaching them to survive by managing the process of change and adaptation should also be implemented under the supervision of these institutions (Bozkurt, 2020).

Keeping pace with the new normal during distance learning and adopting new roles has created diverse challenges for stakeholders. The limited knowledge and skills of the stakeholders, who are met with inevitable distance learning for the first time, prevent flawless execution during the process. Introducing distance learning swiftly without making the required planning has particularly affected students more than other stakeholders (Tuysuz & Ugulu, 2021). This study has considered this phenomenon and tried to reveal the views of the students who have to actively experience their own learning and the parents who play an essential role in smoothly continuing their children's education. Examining all these distance learning practices for both students and parents will provide added value to the literature in terms of increasing the quality of distance learning activities, identifying current shortfalls and problems, and qualified structuring of future face-to-face and distance learning practices. In addition, the literature review reveals that many studies have been carried out during the COVID-19 pandemic, especially on distance learning, but with a general focus on a single stakeholder. These studies generally cover undergraduates/graduates (Adnan & Anwar, 2020; Aristovnik et al., 2020; Cicha, Rizun, Rutecka, & Strzelecki, 2021; Lee, Fanguy, Lu, & Bligh, 2021; Salas-Pilco, Yang, & Zhang, 2022; Yeung & Yau, 2022), lecturers (Hanan, Firman, & Terasne, 2022; Marek, Chew, & Wu, 2021), teachers (Bayburtlu, 2020; Bakioğlu & Çevik, 2020; Çakın & Akyavuz, 2020; Malandrino & Sager, 2021; Nafsi & Maryanti, 2022; Shagiakhmetova et al., 2022), students (Maity, Sahu, & Sen, 2022; Moliner & Alegre, 2022; Pınar & Dönel-Akgül, 2020), and parents (Çakın & Akyavuz, 2021; Kaya, Mutlu-Bayraktar, & Inan-Kaya, 2022). Studies on multi-stakeholders in distant learning are limited (Ewing & Cooper, 2021; Wangdi, 2022; Yau, Yeung, & Lee, 2022). The focus of the study is the assessment of distance learning activities carried out by the MEB from the perspective of parents and students. Within the scope of this focus, the study sought answers to the following research questions:

1. From the perspective of parents and students, how do the teaching activities in distance learning affect learning processes?
2. How do teachers supervise the learning process in distance learning from the perspective of parents?

3. From the perspective of parents and students, how does distance learning affect the learning process in terms of students compared to face-to-face education?

Method

Research Model

In case studies, the researcher deliberately separates cases with unclear context from their context and narrowly analyzes events that are not available for observation, focusing on the whole (Yin, 1981; Schreiber & Asner-Self, 2011). The researcher delivers in detail the case described as the core of the research and clearly explores the underlying realities, limiting boundaries (Miles & Huberman, 1994). Besides, the essential feature of case studies is that their sample groups are people and experiences. Accordingly, case studies must primarily be designed in a way that persuades the sample group or interviewees to gather their appropriate responses (Shaban, 2009; Njie & Asimiran, 2014). The researchers have conducted this study, which aims to examine distance learning practices from the perspective of parents and students during the COVID-19 pandemic, using the case study method, one of the qualitative research designs.

Sample Group

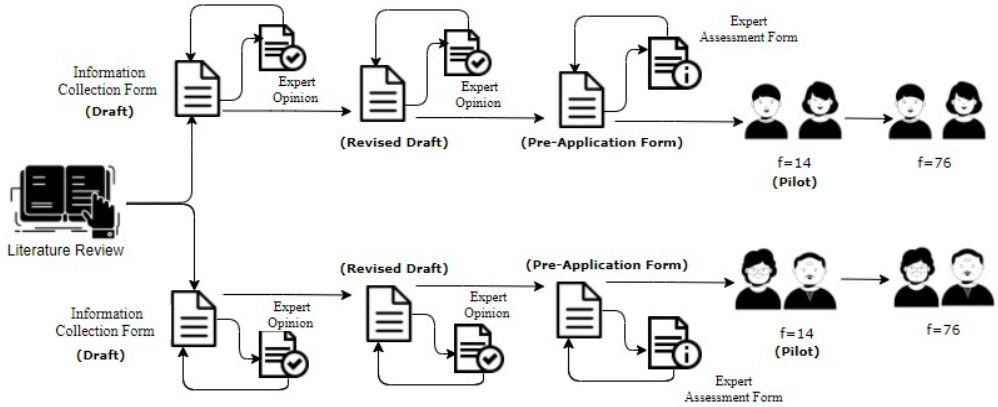
The study sample consists of 76 primary school students from various grade levels in state schools of Giresun and their parents (76). The sample was selected using the convenience sampling method due to the COVID-19 pandemic. The convenience sampling method, one of the qualitative research methods, is often deemed as the best sampling method adopted when the researcher is not able to employ other sampling methods (Yıldırım & Şimşek, 2016).

Data Collection Tool and the Process

The information collection form was used as a data collection tool to identify the distance learning practices implemented during the COVID-19 pandemic, from the perspective of students and their parents. While designing the form, the literature was reviewed, and the identified research problems were considered. The assessment form for distance learning practices was designed by making preliminary interviews on the phone and the Internet with two academicians and a teacher engaged in the said practices. Interviews were conducted online as per social distancing rules. The researchers considered the students' age and developmental status, and the research principles on child participation in the pre-interviews. They also paid attention to the development of the questions to serve the purpose of the research. Against this background, 18 open-ended questions were prepared separately for students and their parents. Questions have been developed under the following titles: Assessment of Access to Distance Learning

Practices from the Perspective of Parents and Students, Assessment of Technology-Supported Teaching Materials from the Perspective of Parents and Students, Assessment of Distance Learning Practices in Terms of Learning Process from the Perspective of Parents and Students, Assessment of the Distance Learning Process in Terms of Teachers from the Perspective of Parents and Students, Assessment of the Differences of Distance Learning from Face-to-Face Education from the Perspective of Parents and Students. Accordingly, a draft form was created. Expert opinion was obtained from three education experts, one in informatics, one in primary education, and one in primary education, leading to the draft revision. An Expert Assessment Form (EAF) was prepared to determine the content validity of the draft form thereafter. This form was delivered online to two academicians and one teacher with experience in preparing a distance learning information form for a pilot scheme. The draft form was updated in line with the experts' and teachers' feedback and was turned into a pre-application form. Simultaneously, the researcher teacher made an online pre-application, as a pilot scheme, to 14 students and their parents, founding any problem with the clarity and responsiveness of the form. The data collection tool was finalized and was utilized online due to the COVID-19 pandemic being effective at the time of the research. As a final step, the data collection tool was also created on Google forms, a survey administration software offered by Google, with a helpful, shareable link. The research application process is schematized in Figure 1.

Figure 1. Data Collection Process



Data Analysis

The data obtained from the information collection form were analyzed by frequency and content analysis methods. Two researchers examined the obtained data in detail and developed codes suitable for the participants' answers. Then, the consensus and disagreement of the two researchers were determined (Miles & Huberman, 1994). The research reliability was calculated as 100/(100+4)=0.92, and the reliability of the codes and categories by the opinions of the parents was 42/(42+5)=0.86. The codings were matched according to their similarities and differences, and subcategories/categories were identified by grouping them under

different titles. Themes were determined by using these created categories, and this process continued until the themes were established. Moreover, the findings were supported by some examples from participants' responses. The data were submitted to the field expert for finalization in order to verify the pertinence of the categories by the codes and to ensure whether they represent the theme. It is well established that an independent expert's reviewing data collection tools, raw data, coding during the analysis phase, and reporting process to ensure the validity and reliability of studies conducted under qualitative research is essential for improving the research quality (Yıldırım & Şimşek 2016, p. 87). Accordingly, the obtained data were finalized in line with the received feedback.

Ethic

The researchers meticulously employed the data collection tool and collected the data of parents and students at each step of the study by the principles of confidentiality and respect for human beings. Within the scope of the research, consent to participate in the research was obtained from the parents for both themselves and their children. Since the study is research with child participation, students' consent was also obtained. The limitations of the study and the age and development levels of the students were considered, and then the students were assured that their personal information shall not be shared with others during and after the research. It was declared to the students and their parents that they are free to withdraw, cease and not participate in any research phase. Parents who accepted to participate in the study on a voluntarily basis were assigned such codes as P_1, P_2… P_{75}, P_{76}, and students were assigned as S_1, S_2… S_{75}, S_{76}, under the confidentiality principle.

Findings

The study findings are categorized according to the themes created under the research questions, positive, partially, and negative are categorized, which are presented below.

Findings on 1st Research Question

Tables 1-3 show the findings on the first research question that reads: "From the perspective of parents and students, how do the teaching activities in distance learning affect learning processes?" Table 1 below presents findings on whether distance learning is a readily accessible teaching practice.

Table 1. Findings on Whether Distance Learning is a Readily Accessible Teaching Practice

Categories	**Parent**			**Student**		
	Codes	***f***	**%**	**Codes**	***f***	**%**
Positive	Readily accessible	29	38.1	Readily accessible	24	31.5
	Accessible anywhere	11	14.4	Possibility to connect via phone	6	7.8
	Faster	1	1.3	Continuous repetition	1	1.3
	Other	1	1.3			
Partly	When/if there is usage information	8	10.5	When any family elder is with me	2	2.6
	Not always availability of the Internet	4	5.2	When/if there is an Internet package	2	2.6
Negative	Hard to Access	9	11.8	Connection problems	21	27.6
	Not being provided preliminary information and not being taught how to use it	8	10.5	Unavailability of PC and tablet pc	10	13.1
	Lack of equal opportunities	4	5.2	EBA login problem	4	5.2
	Lack of tablet, phone, computer, etc.	1	1.3	Lack of knowledge about the technology use	4	5.2
				Other	2	2.6

Students' and parents' views on whether or not distance learning is a readily accessible practice were examined. Accordingly, twenty-nine parents (38% of the group) referred to distance learning as a readily accessible practice. Also, eleven parents make up 11% of the group with the code"accessible anywhere." In the same vein, twenty-four students stated that distance learning is a readily accessible practice. This constitutes 31% of the group. Eight parents under the partly accessible category made up 10% of the group with the code "When/if there is usage information," while two students (2%) expressed their views with the code "When any family elder is with me." Nine parents (11% of the group) believe that distance learning is hardly accessible, while twenty-one students (27% of the group) stated that the practice was hard to access, with the code of "Connection problems." Besides, the parents deemed the process as readily accessible in general, but the students (13% of the group) have adverse views on the practice with the code "Unavailability of PC and tablet pc."

Parents and students used the following statements in the "positive" category regarding whether or not distance learning is a readily accessible practice: P_7 "Distance learning is easily accessible. We can turn on the TV or watch it on the Internet," P_{12} “An easy method. It can be used faster and everywhere," P_{10} "Yes, because it made them remember by doing it again," P_{18} "Yes, we can access it easily, and the hours are pre-determined, now he/she gets up and watches the channel," P_{33} "Yes, it is an easy practice in terms of due hours and its feature that does not require transportation," P_{76} "Yes. Thanks to the repetitions, it is easy to reach them as there are several repetitions during the day," S_{19} "No, it didn't happen to me. Lessons are aired twice a day. Let's say I missed it, maybe it happened twice, I can watch it again," S_{16} "it is easy because it can be used with

various browsers," S_{29} "I did not have any problems with it. We tuned the channel on the TV, and I watch the lessons."

Participants stated the following in the "partly" category regarding whether or not distance learning is a readily accessible practice: P_{18} "Yes for children having well-established infrastructure," P_{34} "Where the Internet is available, yes," P_{39} "It can be so, education can be conducted if the Internet is available," P_{75} "The practice is partially sufficient, even though it is not the same as in school," P_9 "If there is no Internet problem, yes," S_{10} "Sometimes we couldn't login. If there is a connection, I think the application is accessible."

The parents and students expressed the following in the "negative" category regarding whether or not distance learning is a readily accessible practice: P_{50} "It is not so because the student-teacher relationship is more efficient in the face-to-face classroom setting," P_{38} "No, since we are having problems with the Internet. Sometimes we can't login due to high traffic. That's why we cannot attend some classes. So, we have to pass to another topic without understanding the current one," P_{67} "We have many network problems. Some students could not attend lessons," P_{23} "No it's not the case. We accessed so easily," S_{32} "No, it's not. I had Internet connection problems during live classes. I was unable to connect via my father's phone," S_{30} "Most of the time, I could not attend EBA," S_{37} "There was an Internet problem, the connection was lost," S_{38} "I could not get easy access due to EBA update," S_2 "Disconnections occurred. Most of the time I couldn't connect," S_{42} "No. EBA is consuming too much Internet quota."

Table 2 shows the findings on the effect of technology-supported teaching materials used in distance learning on the learning process.

Table 2. Findings on the Effect of Technology-supported Teaching Materials Used in Distance Learning on the Learning Process

Categories	**Parent**			**Student**		
	Codes	***f***	**%**	**Codes**	***f***	%
Positive	Facilitation of the learning process	29	38.1	Ease of Use	19	25
	Ease of use/accessibility at any time	11	14.4	Accessibility	6	7.8
	Popularization of the use of mobile phones, tablets and PCs	2	2.6	Research possibility	3	3.9
Partly	When/if it is used within the correct time intervals	8	10.5	When/if the conditions and equipment are proper	5	6.5
	When/if the Internet is available	3	3.9	If it is used duly	2	2.6
Negative	Hard to use	16	21	Lack of tablet, phone, computer, etc.	16	21
	Lack of equal opportunities	3	3.9	Lack of infrastructure	13	17.1
	Lack of tablet, phone, computer, etc.	1	1.3	No real learning environment / Boring / Causing attention deficit	5	6.5
	Not being provided preliminary information and not being taught how to use it	1	1.3	Time limitation	5	6.5
				Difficulty of use	2	2.6

Students' and parents' views on the effect of technology-supported learning materials used in distance learning on the learning process were examined. Accordingly, 29 parents have a positive opinion with the code "Facilitation of the learning process." This makes up 38% of the parents. Nineteen students have a positive opinion with the code "Ease of use/accessibility at any time", constituting 25% of the group. Eight parents are of the opinion that distant learning has a positive effect as long as it is used within the correct time intervals, while five students think that the practice contributes positively only when the conditions and equipment can be provided and adjusted correctly. Sixteen parents with negative views by the code "Hard to use "constitute 21% of the group, and 16 students have also negative views by the code "Lack of tablet, phone, computer, etc." This constitutes 21% of the student sample. The evaluations revealed that 53 parents (67% of the group) had positive or partly positive views, while 41 students (53% of the group) had negative views.

Participants stated the following in the "positive" category regarding the effect of technology-supported learning materials used in distance learning on the learning process: P_{25} "Sure, this was the case. At least, we tried to give the information we had. I tried to teach. Of course, we used technological support during the process," P_{31} "Yes, it enabled him to learn the lessons," P_{45} "Yes. We did different activities," P_{52} “Yes. He listened to his lessons on TV. He watched homework and live lectures on the phone,” P_{57} "Yes. He learned subjects he did not know thanks to technological support," P_{58} "It facilitated the learning process by making it possible to reach educational resources in a short time," P_{60} "Yes. Watching videos, doing what is explained in some videos, solving the tests loaded on EBA, and doing activities with repetitions of the subject, especially by using technological materials, contributed to the learning process," P_{63} "I think this was the case because we were able to replay and watch topics that we didn't understand or couldn't remember," S_{74} "Yes. I can now more easily do my homework assigned via virtual platforms on my own," S_{63} "I consolidated what I watched and learned in EBA through different videos and questions," S_{52} "I think so because I learn much information."

The parents and students expressed the following in the "partly" category regarding the effect of technology-supported learning materials used in distance learning on the learning process: P_{38} "As long as we had no problems with the Internet, it contributed to us," P_{68} "It's contributed a little. We were able to benefit just as we accessed," P_{72} "We have greatly benefited from it when we have the Internet," S_{25} "Not much. The more there is on the phone," S_{49} "Technology contributes to distance learning, but it could be more ...! At least, I wish there had been a clearer, smooth, trouble-free intercommunication...!" P_{S7} "If the internet connection had been a little better, it would have been better," S_{61} "A little bit yes, a little no. At this age…! The use of technology should be clear, easy-to-understand, and images, sound and similar issues should be clear-cut and smooth."

Parents and students expressed the following in the "negative" category regarding the effect of technology-supported learning materials used in distance learning on the learning process: P_{72} "My response is negative because of the inequality arising from the purchasing power and the economic circumstances of

the society," P_{65} "No, it's not enough," P_{38} "We had problems with the Internet," S_{44} "No, it did not provide any positive effect because I don't have any technological device other than my phone," S_{71} "No. We cannot use it when we desire so," S_{74} "I do not find it sufficient because we have learned too little," S_{60} "Listening lessons on TV and computer for a long time is boring for me," S_{65} "No. We listen but don't understand lessons. I'm getting distracted."

Table 3 presents the findings on distance learning's positive/negative contributions to the learning process.

Table 3. Findings on Distance Learning's Positive/Negative Contributions to the Learning Process

Categories	**Parent**			**Student**		
	CODES	***f***	**%**	**Codes**	***f***	**%**
Positive	Providing positive contribution to the learning process	39	51.3	Keeping up with lessons' progress pace	8	10.5
	Teaching and reminding of lessons with different topics	4	5.2	Providing positive contribution to the learning process	7	9.2
	Establishing a bond with school	3	3.9	Making the distant closer	2	2.6
	Not hindering training and education	2	2.6	Learning without time limits	1	1.3
	Enabling safe education at home	2	2.6			
	Best method to use in extraordinary circumstances	1	1.3			
Partly Positive	Providing partly positive contribution to the learning process	10	13.1	When/if there are no interruptions during lessons	9	11.8
	When/if there is no intensive schedule	1	1.3	Although lesson duration is short	7	9.2
	Although exam-referenced studies are carried out	1	1.3	Providing partly positive contribution to the learning process	1	1.3
Negative	Providing negative contribution to the learning process	10	13.1	Lack of communication with schoolmates/teacher	11	14.4
				Connection problems	7	9.2
				Yearning for teachers	7	9.2
	Not substituting for education at school	3	3.9	Lack of school order/setting	6	7.8
				Not offering peer-to-peer training opportunities	4	5.2
				Not apprehending classes	3	3.9
				School is more fun	1	1.3
				Lessons on TV	1	1.3
				Other	1	1.3

The assessment of the parents' and students' views on distance learning practices' positive contributions to the process showed that 36 parents out of 76 believe that distant learning contributes positively to the learning process. This constitutes 51% of the parents. Also, eight students are of the opinion that the practice makes a positive contribution to learning by stating that they do not miss the lessons, constituting 10% of the group. Ten parents (13% of the group) think

that distance learning practices partially contribute positively, while nine students adopted the code "When/if there are no interruptions during lessons." This constitutes 11% of the group. Ten parents who believe that distance learning contributes negatively constitute 13% of the group, and 11 students have a negative opinion with the code "Lack of communication with schoolmates/ teacher." This constitutes 14% of the group. Parents think that the distance learning process does not make a negative contribution in terms of communication, while 11 students have negative views by the code "Lack of communication with schoolmates/teacher." This constitutes 11% of the student sample. Only 13 parents (17% of the group) have negative views, while 41 students with negative views constituted 53 percent.

Parents and students expressed the following in the "positive" category regarding distance learning's contribution to the learning process: P_{64} "Of course, there was positive contribution. Students did not break with the school discipline. We made our teaching plan according to the lessons," P_{45} "Yes, this was the case. We were not left idle, and there was a nice process with the help of EBA TV and our teacher's live lessons," P_{59} "Yes, he/she learned new topics," P_{63} “Of course, yes. Students did not break with the school discipline. We made our teaching plan according to the lessons," P_{74} "I can say this was the case. Trying to learn only on digital platforms enabled him/her to look at learning from a different perspective," S_{38} "Despite the COVID-19 pandemic, our teachers can teach us lessons," S_{27} "I can follow the lectures even remotely," S_{74} "My teacher explains better and in a more comprehensive way, and it makes me happier to take lessons with my friends."

The participants stated the following in the "partly" category regarding distance learning's contribution to the learning process: P_{16} "Its contribution was a bit because due to the high internet traffic," P_{11} "It did not exactly replace the school; however, it is partially beneficial," P_{67} "Although it does not similar to in situ learning at school, it was beneficial to some extent," S_{40} "The duration of lessons is short, it would be better if it was longer."

Parents and students expressed the following in the "negative" category regarding distance learning's contribution to the learning process: P_{54} "No, it did not provide any contribution. Education is not like in school, the lessons were always simplified," P_{21} "It was not as useful as it was in school," S_{26} "School is more fun," S_{33} "Several problems could happen in teachers' Internet connection," S_{37} "It is bad that my friends are not with me," S_{46} "Lesson hours are short, lectures are given too quickly, and it is not like in school," S_{76} "I had trouble in connection," S_{59} "I cannot pose any question when I do not understand, or my teacher does not hear the answers I gave to the questions," S_{57} "Two major problems: not being able to connect and not feeling my teacher's presence."

Findings on 2nd Research Question

Table 4 shows the findings on the second research question that reads: "How do teachers supervise the learning process in distance learning from the perspective of parents?"

Table 4. Findings on Teachers' Supervising the Learning Process in Distance Learning

Categories	Parent			Student		
	Codes	***f***	**%**	**Codes**	***f***	**%**
Positive	By caring and attending	43	56.5 %	Whenever we need	25	32.8
	By examining through tests and evaluations	7	9.2	By using technological materials	18	23.6
	By checking homework	6	7.8	Through calls / messages	16	21
	By keeping in touch	5	6.5	By using educational materials	13	17.1
	By making information	4	5.2	Other	2	2.6
	By asking questions	2	2.6			
	Identifying the shortcomings	1	1.3			
	Through online communication	1	1.3			
Partly	Less involved than face-to-face learning	1	1.3	When/if time allows	3	3.9
	By sending educational videos from time to time	1	1.3	When/if the connection is available	2	2.6
Negative	Lessons were not interactive	4	5.2	Other	1	1.3
	Other	1	1.3			

Students' and parents' views on teachers' supervising the learning process in distance learning were examined. Accordingly, 43 parents are of the opinion that the teachers follow the process with the code "By caring and attending." This constitutes 56% of the parents. Similarly, 25 students expressed that the process was monitored by teachers with the code "whenever we need." This also constitutes 32% of the students. Besides, 18 students stated that their teachers supervised the process "By using technological materials." This makes up 23% of the group. Finally, four parents stated that the teachers did not monitor the learning process because the lessons were not interactive, while three students said that teachers follow the process as long as they find the time.

Parents and students expressed the following in the "positive" category regarding the teachers' supervising the learning process in distance learning: P_9 “Our teacher used some learning material. He/she has an online board where he/she explain topics, and we understand them very well," P_{17} "Our teacher has always been in interaction with the children during this burdensome process. He/she took care of them as if they were in real school settings," P_{23} "Yes, it is undoubtedly so. Our teacher is very effective in this regard," P_{46} "He/she definitely questioned and did his/her best. He/she has always supported our children during the process," P_{49} "During the education, our teacher asked questions such as "Do you understand?, Should I explain sufficiently?" while also directing some instructions as "Come on, please answer those who do not understand." He/she enabled us to understand and learn the subject adequately by repeating the answers. He/she helped us to socialize by dealing with all of us one by one, mostly at the beginning of the course. We are grateful to our teacher, and thank him/her," P_{53} "He/she continuously supervised. He/she did so sometimes by peer-to-peer, sometimes collectively. Through questions and answers, he/she questioned whether the topic was understood. He/she asked if we had any questions and meticulously required us to repeat what we learned," P_{60} "Yes, he/she questioned

and checked homework. He/she asked students questions about the topic of the day or the week. He/she gave additional information on the less comprehended topics," P_{62} "He/she questioned. He/she was caring, many thanks to him/her," S_{29} "We had a class group. Our teacher talked to us and answered our questions without bothering us."

The participants stated the following in the "partly" category regarding the teachers' supervising the learning process in distance learning: P_{33} "He/she seemed less interested compared to real school settings," S_2 "He/she was trying to answer but not at a sufficient level."

One parent stated the following in the "negative" category regarding the teachers' supervising the learning process in distance learning: V_{69} "No, since there was no interaction in every lesson."

Findings on 3rd Research Question

Table 5 shows the findings on the third research question that reads: "From the perspective of parents and students, how does distance learning affect the learning process in terms of students compared to face-to-face education?"

Table 5. Findings on the Differences Between Students in Distance Learning and Those in Face-to-Face Education

Categories	Parent			Student		
	Codes	***f***	**%**	**Codes**	***f***	**%**
Positive	No downsides	4	5.2	Allowing communication	14	18.4
				Satisfying the longing	5	6.5
				Strengthening friendship bond	2	2.6
Negative	Failure to maintain discipline and school setting	18	23.6	Yearning for friends/teachers	23	30.2
	Decrease in student efficiency	17	22.3	Disliking distance learning	17	22.3
	Lack of class atmosphere	15	19.7	No real interaction with teachers	16	21
	Decreased lecture concentration / Difficulty in perceiving	13	17.1	Failure to ask questions / to communicate	14	18.4
	Unwillingness and failure to be happy	10	13.1	Failure to understand lessons	13	17.1
	Lesser course duration	8	10.5	Failure to perform extracurricular activities	12	15.7
	Communication problem with the teacher	8	10.5	Yearning for school	10	13.1
	Connection problems	6	7.8	Access problem	6	7.8
	Failure to focus	6	7.8	Failure to play games	5	6.5
	Too much screen time / Screen addiction	4	5.2			
	School alienation	4	5.2			
	Distancing from teacher	4	5.2			
	Inequality of opportunity	3	3.9			
	Lack of friendship, natural environment, etc.	3	3.9			
	Technology-related drawbacks	3	3.9			
	Lack of communication	3	3.9			
	Differentiation of perspective on education	3	3.9			
	Cyber attack	1	1.3			

Students' and parents' views on the differences between the students in distance learning and those in face-to-face education were examined. Accordingly, four parents (5% of the group) have positive a view of the code "No downsides." while 14 students (18% of the group) also have positive opinion of the code "Allowing communication." Eighteen parents (23% of the group) have negative views by the code "Failure to maintain discipline and school setting," and 23 students (30% of the group) also have negative views by the code "Yearning for friends/teachers." Besides, 17 parents (22% of the group) are of the opinion that the efficiency of the students decreased. Seventeen students (22% of the group) stated that they did not like distance learning, and 16 students said that they could not have any real face-to-face interaction with their teachers. This constitutes 21% of the group. Only four parents positively rated the teaching on distance learning platforms, and 21 students think that distance learning has positive aspects.

The participants stated the following in the "negative" category regarding the differences between the students in distance learning and those in face-to-face education: P_2 "Surely, distance learning is not like face-to-face education. The classroom environment is more effective in face-to-face education," P_{12} "Children don't take distance learning too seriously. We were not having such a hard time in face-to-face training," P_{18} "Of course, there is a big difference. Face-to-face education has been a great blessing in terms of teacher-student interaction. However, only a teacher on TV speaks in distance learning, so there is no reciprocal communication," P_{45} "School settings and home are different. Students are more comfortable at home, the discipline at school lacks at home, and children enjoy this comfort," P_{48} "There is an attention deficit in distance learning. Children feel more responsible in face-to-face education; I think they influence each other positively and participate in the lessons better thanks to this friendly environment," P_{62} "Face-to-face education is better; it is more effective for students to listen to lessons together with their friends. Students cannot be absorbed much in lessons during distance learning," P_{70} "My child is distracted," P_{61} "Distance learning… reduces naturalness, friendly environment, learning practices, etc. This can also be called robotization," P_{70} "Children are distracted," P_{72} "There are great differences in terms of students' feeling responsible," V_{74} "Of course, there are differences. Students get bored in distance learning most of the time. They are happy and active in face-to-face education." No view was declared in the "partial" category.

The participants stated the following in the "negative" category regarding the differences between the students in distance learning and those in face-to-face education: S_{67} "I have missed studying and playing games with my friends at school," S_{60} “My answers are not heard. I cannot ask any point I didn't understand. The teacher doesn't see when I raise my hand," S_{59} "I understand better what my teacher explained to me, and I am also with my friends," S_{67} "I prefer to learn face-to-face. I used to both study and play games with my friends at school."

The participants stated the following in the "positive" category regarding the differences between the students in distance learning and those in face-to-face education: S_8 "I was in regular communication with my friends and my teacher," S_{63} "I could ensure my interest with my lessons at home and I continued to learn,"

S_{39} "Distance learning is better. We have no responsibilities like in school ☺☺☺ since we are all children."

Discussion

In this study, which was carried out to assess distance learning practices from students and their parents' perspectives, parents revealed that distance learning was accessible from anyplace in learning process thanks to its platforms. Similarly, Bates (2015) stressed that distance learning has a more flexible structure than of face-to-face education, as the former can be easily accessed from anywhere and at any time. Accordingly, such structures can be an alternative in the learning process, especially for individuals who receive lifelong formal education and non-formal education, and individuals with disabilities, as well as for extraordinary circumstances like pandemics. Also, even if the pandemic ends, MEB can continue to take the advantage of distance learning, such as flexibility, learning at any place and time, through hybrid education where face-to-face education and distance learning is intertwined. Students, like their parents, also noted that these platforms are easily accessible. However, the study showed that students had difficulties in accessing the distance learning platforms due to connection problems. If these deficiencies are eliminated, the use of related environments will provide flexibility in learning to facilitate the learning process, provide more opportunities for the transfer of knowledge and practices, and increase accessibility to resources anytime and anywhere (Regmi & Jones, 2020). Research findings indicate that technology-supported learning materials used in distance learning facilitated the learning process. However, some parents stated that these technology-supported materials are challenging. Unlike parents, students find these materials easy to use. This is probably since today's generation, called digital natives, has been in constant interaction with technology since the day they were born. Although the literature review indicates that a large part of this generation has technological tools such as computers and mobile phones (Kennedy et al., 2008), the research revealed that students were negatively affected by inadequate internet infrastructure and the lack of tools such as tablets, phones, and computers (O'Malley, 2020; Özgöl, Sarıkaya, & Öztürk, 2017). Similar to research findings, Budi et al. (2020) emphasize that 10 percent of the participants in the study do not have a laptop or personal computer, 16 percent do not have internet access, and 49 percent cannot participate in distance education due to the limited capacity of different online environments and unstable internet access. However, it is possible to mention that the existing classroom climate and the effectiveness of the learning process are significantly impacted by the order and discipline issues encountered in the remote education process (Morgan, 2020; Carrillo & Flores, 2020). Most of the parents noted that distance learning contributed positively to the learning process. Moreover, Kang and Zhang's (2020) study stressed that education in this process promotes the learning level and motivation of students. Students also consider distance learning an effective tool to positively contribute to the learning process and not miss their lessons. Similarly, Sindiani et al. (2020) stated in his

research that distance learning is an excellent option for the learning process in extraordinary circumstances like pandemics. He also stated that the unexpected breaks during lessons caused by connection problems experienced in this process, short course durations, and students' longing for their teachers also adversely affected the process. Besides, as indicated in Table 5, students long for friends and teachers in distance learning platforms. Özgöl, Sarıkaya and Öztürk (2017) stated that students desire face-to-face education and that the use of distance learning practices adversely affects their self-confidence in the long term during distance learning. Additionally, the literature review also shows that when students have become distanced from face-to-face education during this period, they are less happy (Munasinghe et al., 2020) and feel lonely (Lee, Ward, Chang, & Downing, 2020). In other words, the happiness of the students in the process directly affects the active participation of the student in the learning process and student performance (Durón-Ramos, Mojica-Gómez, Villamizar-Gomez & Chacón-Andrade, 2020; Kahu, Picton, & Nelson, 2020).This may indicate that distance learning is structured solely based on learning and that pedagogical and social roles other than those of the learning process are ignored. Most parents underlined that teachers take care of their students, following them continuously during the distance learning process. Similar to parents, students also stated that their teachers guided them when needed. Lee, Fanguy, Lu, and Bligh (2021) suggest in their study that the educators' efforts to communicate with students and ensure student success during the pandemic positively affect student satisfaction, thereby the learning process. One of the key findings of the study is that teachers follow and guide students using technological materials and tools. Teachers should guide and lead in the distance learning process (Gülbahar, 2019). Although it is easy to supervise and guide students on face-to-face education, problems are experienced in student performance and supervision of their learning activities outside the school in distance learning (Balaman & Tiryaki, 2021). In this regard, we can suggest that teachers correctly positioned themselves as a guide in the distance education process and that they guide students during the process of structuring their learning, even cooperating with parents. Comparing the distance learning process with face-to-face education, the parents revealed that, of the teacher's managerial roles, those related to classroom management, such as disciplinary and supervision problems and lack of class atmosphere, are lacking. Although face-to-face and virtual classrooms feature certain similarities, there remain differences between these environments, and a qualified education would be carried out if the process is well structured by considering these differences (Turan-Güntepe, 2020). Moreover, the decrease in student productivity in distance learning is one of the key findings of the study. Similarly, regarding the distance education process, Balaman and Tiryaki (2021) suggested in their study that motivation directly affects student academic performance. Furthermore, the students' disapproval of distance learning and their inability to communicate with teachers face-to-face negatively affect their attitudes towards distance learning platforms. Some studies in the literature underlined that students are not satisfied with distance learning, and favor face-to-face education (Patricia, 2020; Sindiani et al., 2020). This phenomenon may be the underestimation of fundamental issues such as how the

teaching process should be designed, organized, and managed in the compulsory transition to the distance learning process. To remedy the situation, different instructional design modules, which are structured by considering the individual differences of the learners, can be used to increase the learners' interest, satisfaction, and motivation in the learning-teaching process, as well as contribute to their active participation in the process (Popyk, 2021).

Conclusion

In the study in which the distance education process is evaluated by students and parents during the pandemic process are evaluated; it has been concluded that the applications used for distance education can be accessed from anywhere and offer a flexible environment in unexpected situations such as pandemics. In addition, it has been that the connection problems caused by the internet infrastructure in distance education cause disconnections in the lessons. The inability of students to see the teacher face-to-face and to communicate face-to-face in distance education negatively affects students' approaches to distance education. At this point, building hybrid learning environments instead of using distance education completely can help students overcome their unfavorable attitudes.

Another result obtained from the study is in accordance with the roles and responsibilities of the distance education process of teacher's when students need them that guided that the student and is to lead the way. In addition, it was determined that the teacher followed the students with the technological tools that were used and cooperated with the parents in the process. However, it is possible to mention that the order and discipline problems experienced in the distance education process negatively affect the current classroom climate and the efficiency of the learning process. At this point, it can be suggested that the methods applied for disciplinary problems encountered even in face-to-face education should be integrated into the distance education process considering student profile and classroom climate.

The study results revealed distance learning should be planned in detail, and its management process should proceed in a restrained manner to enable an effective and efficient distance learning process. Finally, strengthening the Internet infrastructure or providing fast and reliable internet connection to schools, making it available to individuals to minimize connection problems in distance learning, can be an effective tool to make the process better.

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Reduction of Socio-economic Diversity through Standardisation of Language: Reflections and Challenges

By Kevin Norley[*]

Could the standardisation of language narrow disparities in achievement in education amongst people of different social class, and within and across ethnicities and genders, and could this have implications for injustices and inequities in wider society? In analysing socio-economic diversity through the lens of its correlation with language, this paper examines how the standardisation of language could be used as a means to reduce such diversity. It examines links between the standardisation of language, and the reduction of inequalities between socio-economic groups, in regard to achievement in education. It also examines the correlation between language and social class, and propensity towards being a perpetrator and/or victim of hostility and violence, as well as their relationship with health and life expectancy etc. The paper further examines the effect of the use of technology and teaching methods on the acquisition of knowledge, and how this impacts upon children of different social class within the learning environment. In order to help address some of these questions, an auto-ethnographic methodology is adopted with the aim of being able to explore, and reflect upon, personal experience, and to be able to weave greater understanding and connections between apparently disparate factors related to diversity, all through the lens of language and its relationship to aspects of culture relating to social class. Amongst its conclusions, the paper argues that the standardisation and enhancement of spoken language would narrow the disparities in academic achievement between socio-economic groups. The paper also argues that in order to challenge inequitable power structures which have arisen from historical injustices, then rather than concentrating on under-representation of groups of people within high status positions in society, the focus of diversity should be directed towards challenging the over representation, in a range of settings, of groups of people within low status positions in society.

Keywords: auto-ethnography, socio-economic diversity, language, Standard English, inequality

Introduction

Social class is arguably the biggest area of educational inequality in Britain, yet when we consider the continued differential in educational achievement between children of different socio-economic groups, reflecting quality of life indicators such as job opportunities, health and life expectancy etc., it is the one that has been least addressed. However, educational inequalities do not occur in isolation, they are linked with and reflect the prevalence of social inequalities (Reay, 2012). With research showing that the gap between rich and poor increasing, and social disparity becoming more and more entrenched (Oxfam

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2016), what can the education system itself do to help address issues of inequalities and in so doing, help to readdress some of the inequities and injustices in society*?*

Could the standardisation of language help narrow disparities in achievement in education between children of different social class, and between and within different ethnic groups and genders, and could this have implications for injustices and inequities in wider society? In examining socio-economic diversity through the lens of its correlation with language, this paper examines how Standard English could be used as a means to reduce disparities in relation to educational achievement between different social groups in education. It also examines the correlation between language and social class, and propensity towards being a perpetrator and/or victim of hostility and violence. The correlation between socio-economic diversity and language is further examined in the context of the impact of different teaching methods and the use of technology on the acquisition of knowledge by children of different social class within the learning environment.

The paper briefly discusses socio-economic diversity within the UK in relation to life expectancy, health and occupation etc. and through drawing and reflecting upon reports and research studies, considers the impact of social class on schooling and education. Having expounded upon the correlation between social class and language, the paper draws on research in order to make links between the correlation, and educational achievement between and within ethnic groups and genders, and between the correlation, and propensity towards, and susceptibility to, violence.

Following the methodology, the paper is set out in three broad areas (Socio-economic diversity, education and language; the impact of social class on ethnicity and gender; and Teaching methods and technology) with a section discussion following each one. The paper draws conclusions from the themes explored in the three sections, which include reflections on the author's experiences over the past 30 years as a practitioner in education. It then moves on to a further discussion, in the form of some anecdotes which help to underpin and support some of the conclusions made, and finishes off through hypothesising over possible links between some of the conclusions made, and the influence of human nature and its relationship with power.

Whilst the focus of the paper has predominantly been on the UK and English speaking countries (e.g., the USA and Canada), the arguments made and conclusions drawn could, I believe, be applied to other countries and societies with other languages.

Methodology

In order to help address some of these questions, an auto-ethnographic methodology is adopted with the aim of being able to explore, and reflect upon personal experience, and to be able to weave greater understanding and connections between apparently disparate factors (Merrill & West, 2018) related to the correlation between social class and language, and academic achievement. Such methodology allows for examination and reflection of research and reports related

to such factors including socio-economic status, health, ethnicity, gender, multiculturalism, schooling, teaching methods and the use of technology etc. all through the lens of language and its relationship to aspects of culture relating to social class. The methodology also assists in bringing to the fore, causal and antagonistic relationships which may otherwise not be covered by other research methodologies.

Socio-economic Diversity, Education and Language

Despite comparable access to health care services, when the average life expectancy of people in wealthy and socially deprived areas within close proximity of some cities is compared, such as between Cathcart and Simshill in Glasgow, or North Kensington and South Kensington in London, it is found to be in the region of 15 years or so, whilst in many other cities and towns across the UK, it is found to be in the region of 10 years. The higher rates of premature mortality and illness are found to be within lower occupational socio-economic groups, reflecting differences in general health, diet and lifestyle choices etc. between the social classes. The correlation between health and poverty has been highlighted by Marmot (2004), who was also able to demonstrate, based on nearly 30 years of research, that such issues are exacerbated the lower people are in an organisational hierarchy and concluded that status is not a footnote to the causes of ill health, it is the cause.

In relation to income, disparity is also reflected in pay differential in the workplace where, for example, a report from the High Pay Centre (2018) found that over the past 20 years, the average pay for top executives had increased from 47 times that of their average employee to 130 times that of their average employee. Over those years, globalisation and fast-paced technical change have created an environment whereby those whose services are in competition have found their skills to have been devalued, whilst the demand for more highly educated workers has remained intense, leading to an increased gulf between workers of different socio-economic groups. In the 1950s and 60s, there was a more rigid class structure, but less inequality. According to Adonis and Pollard (1997), since the second world-war, existing class divisions have widened, and new class divisions, namely the Underclass and the Superclass, have been added on. Consequently, the class structure is now less rigid, yet at the same time, there is less social mobility and, according to Oxfam (2016), a much greater disparity between rich and poor. Standing (2021, p. 8) argues that as the world has moved towards a more "flexible, open labour market … a more fragmented global class structure" has emerged in which inequalities have grown. The working class or proletariat, he argues (2021, p. 8), which used to be defined, "by the way they dressed, spoke and conducted themselves", no longer had a work-based identity, but instead, he continues (2021, p. 14), had jobs "without traditions of social memory" which lacked, "a feeling they belong to an occupational community, steeped in stable practices, codes of ethics and norms of behaviour, reciprocity and fraternity".

Along with average life expectancy, general levels of health and professions, socio-economic status is reflected across people's level of education, and the language and range of vocabulary they deploy in their everyday lives. The impact of the demise of traditional working class industries in post-industrial cities on the support for education within working class communities was highlighted by Ofsted (1993). The effects of parental social class origin on their children's education have been well detailed in studies by Douglas (1964), who argued, for example, that working-class parents took less interest in school and education, and therefore pushed their children less and indeed often encouraged them to focus on goals outside school and education, and Hyman (1967), who argued that working-class families were less interested in social mobility than middle-class families and that their value system created a self-imposed barrier to an improved position.

Concerns in regard to the correlation between the failure of working class families in deprived areas to set boundaries for their children, and the lack of achievement of white working class boys, were highlighted by the head of Ofsted, Sir Michael Wilshaw (2012). He backed this up with evidence that white British boys from poor families who qualify for free school meals lag behind fellow pupils throughout the school system and achieve the worst results aged 16 of any ethnic group apart from gypsy and traveller children. Furthermore, research commissioned by Lambeth Council (2019) in South London, found that in inner-city schools, teachers had criticised a culture of low aspirations and a "small world" mentality among some poor white families, and had claimed that many parents spent hours with their children in front of the television, rather than visiting local areas of interest.

The Institute for Fiscal Studies (2020) reported that during "lockdown" in the COVID-19 pandemic, richer pupils spent on average six or seven hours a week more on their education than poorer pupils, exposing inequalities with the poorest falling further behind. Such studies have highlighted how social class differences, in particular, inform how parents engage with their children's schooling and the different resources they are able to bring to bear in facilitating their children's educational trajectories.

However, rather than approaching from the perspective of social deprivation (or a deficit model) of the working class, alternate viewpoints have been put forward by others such as Bourdieu (1977), who argues that as a result of particular attitudes and behaviours, the middle-class have a cultural advantage over the working class in the education system. He argues that as particular cultural norms are better represented in the middle class professions (including teaching), the knowledge, skills and experiences imbibed from a middle-class upbringing are better rewarded within the education system. As an example, a study by Stopforth, Gayle, and Boeren (2021) into social class inequalities within Scottish schools contended, on the basis that children from families in more disadvantaged social classes had poorer outcomes with regard to qualifications, that it was the family and home life of the more advantaged social classes that fostered a more conducive environment for obtaining a higher level of qualifications at school.

In regard to schooling, in the post war era, the right of an education and

access to schooling became available for all and a tripartite system was introduced in England. The system provided different types of schooling (ranging from the more academic to the more vocational) for children dependent on their perceived abilities and strengths, based on an IQ test at the age of 11 through which they were judged to be suitable for grammar schools, secondary modern or secondary technical schools. Although described as meritocratic by some, due to differing levels of expectations on children, different curricula and different levels of support from the home environment etc. it had the effect of reinforcing the class system. In his study into working class boys in a secondary modern school, Willis (1978), gave an account of how schools contributed to the maintenance of a class based society, through preparing working class kids for working class jobs. However, he argues that it is the boys' own culture, including a resistance to an education system that they perceive to be for middle class children, which prepares them for the working class jobs and lifestyle that await them after finishing school. In the 1960s, comprehensive schools were introduced as part of an attempt to bring children of different social classes together, in order to help reduce the achievement gap, and compensate for the inequality between middle-class and working class children. However, in spite of such changes, Adonis and Pollard (1997) and McCulloch (1998) have highlighted the failure of the education system to narrow the achievement gap or reduce the inequality between people of different social class, arguing for example that as a school's intake reflects its area in regard to socio-economic status and house prices etc. the expansion of comprehensive schools had actually had the effect of creating further segregation between the social classes.

More recent research from, amongst others, Ball (2008), and Reay (2006), has shown how the diversification of state education (through academies and Free Schools etc.) in recent years has increased segregation and enabled the middle-class to maintain their privileged position in society.

Whether one perceives the differences in attitude towards, and achievement in, education between the social classes as the fault of the working class, or the inherent good fortune of the middle classes or, as a combination of both, culture plays an important part and as part of culture, language has a pivotal role. In his influential large scale sociolinguistic study into the pronunciation patterns of residents of the Lower East Side of New York City, Labov (1966) showed that there was a correlation between language use and socio-economic status, gender and age. The correlation between social class background and language, and educational achievement has been made by, amongst others, Purves (2012), Honey (1997), Phillips (2013), Entwhistle (1978), Bernstein (1964), Wallace (1988) and Rose (2009) who have all argued that the working class have been held back in their education by their lack of access to Standard English.

In regard to the influence of language on educational achievement, Purves (2012), for example, has argued that those who come from homes where they are not exposed to Standard spoken and written English are often amongst the most vulnerable in society, and are disadvantaged as a result of not being able to distinguish between non-standard and Standard English. She argues (2012, p. 17) that, "… one of the best ladders out of deprivation is an ability to write and speak clearly, pleasingly and with a confident command of language". She also makes it

clear that focusing on Standard English and speaking clearly does not mean abandoning a regional accent.

Honey (1997) has argued that "to give access to Standard English to those members of society who have not acquired facility in it through their parents, is an important priority in any society concerned with social justice and the reduction of educational inequalities", whilst Phillips (2013) has argued that vast numbers of children were being discriminated against and severely disadvantaged in life as a result of teachers not being able to impose Standard English.

Entwhistle (1978) has argued that "Working-class children have traditionally had difficulties in schooling due to the inability of working-class speech to support academic discourse", whilst Bernstein (1964) has argued that the failure of children from working-class origins to profit from formal education was "crudely related to the control on types of learning induced by a restricted code."

According to Wallace (1988), there is a dialectic mismatch between speakers of non-standard English and their teachers, which holds them back in accessing the curriculum. In terms of the effect of spoken English on reading and writing skills, she also argues that non-standard speakers may have language related difficulties in developing such skills on the basis that: "While the English writing system does not directly represent speech … the grammar of most varieties of written English is more closely related to standard English than to non-standard varieties of spoken English" (Wallace, 1988, p. 67).

Rose (2009), ex-head of OFSTED has argued that "word poverty" in young children impacts upon formal learning. He stated that, "A high percentage of children in some areas of the country start school with such poor language skills and such a limited vocabulary, that they aren't able to start reading". He attributed the lack of reading and writing skills amongst some school children to the fact that, "reading and writing feed off speaking and listening" and that "if they can't say it they can't write it."

The degree to which literacy skills can affect the society in which people live, as well as individual lives, is highlighted in a report by the National Literacy Trust (2009, p. 2) which argues that a lack of literacy skills "not only impacts upon an individual's personal success and happiness, but also affects their family, the community they live in, and society as a whole". The report, entitled Manifesto for Literacy (2009, pp. 2-4), also goes on to state that those with poor literacy skills "earned less, voted less, had lower aspirations, higher rates of family breakdown, and poorer mental and physical health" and that as a result, literacy problems "… cause acute social, economic and cultural problems that undermine and divide communities". However, as stated in the Manifesto, "Literacy difficulties are not spread evenly across the population; they are disproportionately focused amongst certain groups, in particular groups with lower socio-economic status".

Research has shown (e.g., Clark & Rumbold, 2006) that achievement in education, along with range of vocabulary, grammar, reading comprehension and general knowledge etc. correlates with the amount of free reading done outside of School. A link between reading and educational achievement was also established by Gayle and Stopforth (2022), whose research showed that pupils (or their parents) who participated in reading activities or highbrow cultural activities,

obtained higher mean school GCSE results. Studies have also found (e.g., Clark & Douglas, 2011) that children from lower socio-economic backgrounds read less for enjoyment than children from more middle and upper class backgrounds, and that girls enjoy reading more than boys, whilst research from the DfE (2012, p. 19) highlights the fact that without adequate reading skills, children will not go on to "participate fully in society" and that they "… and their future families will have fewer opportunities to escape a cycle of poverty and deprivation". Hirsch (1988) argues that in order to understand and participate fluently in a given culture, people need to know its language, colloquialisms, idiomatic expressions, entertainment, stories and myths, routines and rituals etc. and that without such, what he terms "cultural literacy", they are unable to understand culturally-conditioned allusions, references to past events, places, names, jokes and idiomatic expressions etc.

In addition, it could be argued that those who are not culturally literate are likely to be disproportionately represented amongst those who share a "culture of poverty", a term coined by Lewis (1971) to help explain why programs to reduce poverty in the USA had not succeeded. She argued that those lacking resources, and living in poverty, also developed an autonomous subculture whereby children were socialized into mindsets and outlooks such as not being able to engage in issues beyond their own conditions and concerns, neighborhood and way of life etc. and not having the knowledge, or concept, of the similarities between their problems and those of others like themselves elsewhere, that perpetuated their inability to escape the underclass.

Discussion (1)

In the UK, in spite of a range of Government policies that have been introduced over the years with the intention of mitigating the effects of material factors related to socio-economic status, they have not been able to compensate for the differences in outcomes arising as a result of the culture associated with social class, which is still probably the main predictor of educational achievement. Linked to, and a significant part of, these class divisions, I would argue, based on the aforementioned studies, is the spoken language with which children engage, along with their reading skills, and as such, I believe that it is important, as educators, to be able to compensate for their lack of opportunities to develop their spoken language and reading skills in their home environment, and for their lack of exposure to standard English.

Whilst language itself, including what people would regard as Standard English, has changed over these years, the differences between the language (in terms of grammatical structures, enunciation and choice of vocabulary etc.) used between different socio-economic groups still remains, reflecting divisions between those groups as well as their access to opportunities in society. I would argue this lack of access to Standard English, not only holds lower socio-economic groups back within education, and reduces opportunities to obtaining the skills and culture required to support a more middle class lifestyle, but deprives them of the commonality needed to engage in the democratic process, as well as to engage

with a wider variety of people and hence, opportunities to embrace diversity.

I have argued however (Norley 2013, p. 9) that to try and correct language can be "… seen as an attack on lower socio-economic groups rather than an attack on the injustices that create them", and I have also argued (Norley 2018, p. 28) that social class "… exists as a result of deep rooted historical injustices" and that to counter such injustices, "… we must challenge not only the causes of those injustices, but the consequences of the culture produced by those injustices …". One of the consequences, I believe, is the language that becomes imbibed by many in lower socio-economic groups and that is not (or at least rarely) challenged or corrected within the home or school environment.

It should be borne in mind however, that children's home language is part of their identity, which they may value and not want to lose. As such, children should be taught how to adapt their language choices to suit their situation (i.e., encouraged to "code switch" accordingly from informal to formal language) and the rationale for doing so should be made explicit. In this way, error correction should not inhibit children's learning or have an impact upon their sense of identity.

Socio-economic Diversity, Ethnicity and Gender

Bourke (1993) argues that class identity is essentially a social and cultural, rather than an institutional or political, phenomenon and therefore cannot be understood without constant reference to gender and ethnicity. Issues related to social segregation of pupils in schools across the country on the basis of ethnicity, and the impact this has had on their future relationships, and outlooks and perspectives on life, have been highlighted by Burgess (2010) and the OECD (2011). Research from the latter, for example, concludes that the UK's school system is socially segregated, with immigrant children clustered in disadvantaged schools, whilst in the former, it is argued that children's future attitudes and perspectives on society are strongly influenced by their peer groups at school and that as such, children who mix predominantly with people of their own ethnic background at school will be less inclined later in life to engage with and embrace people of other backgrounds and alternative viewpoints.

Such segregation has occurred in spite of efforts to promote multicultural education within the UK. Furthermore, the afore-mentioned research commissioned by Lambeth Council (2019) found that in inner-city schools where lessons had been adapted to reflect the diversity of immigrant communities, white working class children were being marginalised, leading to a sense of them losing their identity. In addition, Philips (2010) has argued that multicultural policies have failed, and been very divisive, since they have made people identify with their own culture rather than being part of the broader goal of integrating into their community.

In terms of the correlation between progress within the education system and ethnicity, research carried out by Dustmann, Machin, and Schönberg (2010, p. 273), concluded that "at the beginning of primary school … ethnic minority pupils (with the exception of Chinese pupils) lag behind white British-born pupils", but

that "with the exception of black Caribbean pupils, ethnic minority pupils gain substantially relative to white British pupils throughout … schooling". Their research also showed that conditioning in English as a mother tongue, particularly early on in schooling, significantly reduced achievement gaps between ethnic minority groups. Through his research into the under-achievement of black males in school, Sewell (2009) concluded that it is issues such as peer pressure, interest and enjoyment of black culture, the lack of appropriate role models and absent fathers that are more responsible for educational disparities than institutional racism.

In terms of how migration history and social class have impacted upon different ethnic and linguistic communities in education, research from Hollingworth and Mansaray (2012, p. 4), which tries to identify communities which are most at a disadvantage in education, and where they are located, cites that, "many of the widest gaps" in education are "present in local authorities with substantial Pakistani ethnic minority groups … who tend to speak Urdu, Punjabi or Mirpuri and experience economic disadvantage". The report suggests, on the basis of increasing diversity, that more research is needed into the attainment and educational experiences of ethnic and linguistic groups.

In relation to the influence of gender on educational achievement, research by Voyer and Voyer (2014) from the University of New Brunswick in Canada, based on a review of 308 studies, which looked at data from 1914 to 2011 involving more than 1.1 million children across more than 30 countries, concluded that girls have been consistently outperforming boys over those years, in all academic areas, including maths and science. In relation to the impact of social class on gender though, it can also be concluded, that such achievement of girls, as with boys, varies depending on their socio-economic status.

The bearing of socio-economic diversity on ethnic and gender equality in wider society can be reflected upon in context if we consider the disproportionality of particular crimes that are committed by some social groups, along with the disproportionately of some groups that are represented amongst the victims of such crimes. An example that can be considered is the series of high profile cases over recent years concerning the grooming, sexual abuse, abduction, trafficking, rape and torture of predominantly white working class girls, many of whom were brought up in the care system, across several British towns, by groups of predominantly British Pakistani men. One such report on the issue, the Jay Report (2014), for example, highlights the scale of the problem in one town alone, Rotherham, by revealing that at least 1,400 children in the town had been sexually exploited between 1997 and 2010, and states that there was a "… perception that issues of ethnicity in child sexual exploitation were 'played down' by senior managers in child protection services and elected members". The report also highlights the issue of "cultural sensitivities" having been a barrier to the afore-mentioned crimes being properly investigated.

In addition to the above, similar reports highlighting the abuse, coercion and exploitation etc. of the most vulnerable in society have been produced over recent years from different parts of the world. One such report (Buller et al., 2019) following a three year national enquiry into allegations of abuse and violence against ethnic minority women and girls in Canada estimated that at least 1,200

indigenous women and girls were murdered or went missing between 1990 and 2012, and concluded that the police and the criminal justice system had historically failed indigenous women and girls by ignoring their concerns and viewing them "through a lens of pervasive racist and sexist stereotypes".

The disproportionate amount of crime suffered by vulnerable groups can also be observed in the statistics from a report from the Metropolitan Police (2019) on knife crime on the streets of British towns and cities. The data shows that a disproportionate amount of the victims are males of Afro-Caribbean origin, with a disproportionate amount of perpetrators of knife crime being from such backgrounds also.

Discussion (2)

Within each ethnic and gender group, there is division across the social classes. There may also be cultural aspects pertinent to each group determining to what degree they will be represented in one social class or another and to what degree they will integrate with others. I have observed (Norley 2013) that the higher the level of achievement in education, the greater the degree to which people from different ethnic backgrounds are likely to mix together and integrate. When reflecting on the link between achievement in education and the use of Standard English, the role and importance of language in helping to break down barriers that might exist between different ethnic groups is highlighted.

Reflecting on the examples from the reports highlighted above, which are a small sample of many, it is clear that a disproportionate amount of both victims and perpetrators of particular crimes are from lower socio-economic backgrounds and, as such, that their language usage pertains more to non-standard English. It can be argued therefore, that people in general, but girls and women in particular, who lack sufficient language skills, also lack the ability to detect the hostility present in others‟ language, and are therefore more vulnerable and susceptible to abuse and exploitation.

In addition therefore to the argument that there is a correlation between social class and language, and educational achievement, this paper puts forward the argument for consideration that there is a correlation between social class and language, and susceptibility to, and propensity towards, violence in general, but street and domestic violence in particular. The benefits of the promotion of the use of Standard English, I would argue, go beyond its use in reducing inequalities between socio-economic groups within education, and within and across ethnicities and genders, to being a factor in potentially transforming and empowering, and making safer, the lives of those most susceptible to hostility and violence.

Teaching Methods and Technology

Reflecting on education doctrine, multicultural education advocates student centred learning, whereby students' interests are placed first i.e. in an environment

where learning is focused on each student's interests, abilities and learning styles, placing the teacher as a facilitator of learning. Student centred-learning requires students to be active, responsible participants in their own learning. This is in contrast to teacher-centred learning whereby teachers direct the learning process and students assume a more receptive role in their education.

A bias towards child-centred teaching methods, however, was highlighted by Peal (2014) who, in an examination of 130 Ofsted reports (Peal, 2014) concluded that, in spite of the head of Ofsted, Sir Michael Wilshaw, advocating that inspectors should not show preference to a certain style of teaching, and that those who did had been "rooted out", they were still favouring child centred teaching methods over tutor-led approaches, and showing an aversion to direct teacher instruction, preferring group work instead.

Additionally, Christodoulou (2014), in analysing a series of Ofsted subject reports, found that inspectors had frequently praised learning through discovery and yet methods where teachers were transmitting knowledge were either not mentioned or criticised as bad practice. As such, she argues that whilst teaching through discovery is needed to please Ofsted, it does little for the child. She has argued (2014) that students need facts in order to engage with learning and that those facts are best learned through teacher-led instruction. She argues that direct instruction is a highly effective method of teaching and that frequent practice is important in order to develop higher order skills and the development of long term memory. Drawing on the principles of modern cognitive science, she shows through a wide range of examples and case studies just how much classroom practice contradicts such basic scientific principles. Based on her own time in classrooms, she argues that a generation of school children has been let down by discovery learning, which places emphasis on students finding out for themselves, and that such an approach has left children with glaring gaps in their knowledge and understanding. In arguing that traditional fact-based lessons would serve children better, she challenges the notion that teacher led instruction is passive, that facts prevent understanding, that projects and activities are the best way to learn and that teaching knowledge is indoctrination.

Furthermore, Hirsch (1988) argues that in order to function in contemporary society, children need to have a given amount of knowledge, and a lot of practice in retrieving that knowledge in a lot of different contexts, but that in many schools in the USA, they were being deprived of that knowledge. In a study by Miao and Reynolds (2014) presented at the British Educational Research Association (BERA) conference, set up to compare methods for teaching maths in primary schools in China and England, in order to help explain the gap in results between the two countries, concluded "that 'whole class interactive' work, where the teacher uses questioning and demonstration to explore the subject with pupils as a whole group, is more effective as a teaching method than children working through exercises themselves with teacher support". The research also found that the differential between the highest and lowest achievers was lower in math classes which adopted teacher-led methods.

In acknowledging and attempting to explain why South Eastern countries (such as Singapore, Japan and South Korea etc.) outperform western countries (such as the UK and USA) during cross-national PISA (Program for International

Student Assessment) results, Jerrom and Vignoles (2015, p. 5) argue that differences can be attributed to the fact that, "There are significant cultural, economic and historic differences between countries …" but that "… even if some East Asian teaching methods are potentially more effective than the status quo, one simply does not know whether they can be successfully implemented within the English (or, indeed, other) educational systems".

The importance of structured teaching methods was also highlighted in a study by Gross (2010), which found a correlation between teaching methods and behaviour, through identifying that a child-led approach and mixed ability classes led to a lack of disciplined learning which in turn had had a negative impact upon the development of language skills. The report argued for example that school children were not informed of the differences between the use of street slang and Standard English in regard to spoken English, and that spelling, punctuation and grammar were often not corrected. Similarly, another report from the Policy Exchange (Williams, 2018) found that a child-centered approach to pedagogy both played down the importance of the teachers' knowledge whilst simultaneously contributing to poor behaviour in the classroom, through reducing the basis for their authority.

In the afore-mentioned study by Hirsch (1988), links are made between teaching methods, schooling, social class and ethnicity etc. when he argues that unlike white and Asian children who often have more opportunities to develop cultural literacy at home, children of color growing up in low income families (Black, Hispanic and Native American students) in the USA often attend schools that fall short in building content knowledge, vocabulary and reading comprehension, a failure from which they rarely fully recover.

In relation to the impact of technology on learning, both currently and in the future, Briggs and Simons (2014) have argued that people who have a given amount of knowledge progress more quickly than those who do not have the knowledge i.e., that "knowledge begets knowledge". They argue therefore that in order to benefit from the increased use of, and advances in, technology, that learners need sufficient knowledge and facts in order to exploit classroom technology, engage efficiently in the learning process and hence acquire further knowledge more readily. In regard to the impact of social class on technology use, research from Hollingworth, Mansaray, Allen, and Rose (2011, p. 354) found that compared with working class parents, middle class parents were able to "... display dispositions, which enabled them to more confidently navigate the risks and celebrate the positive elements of technology". As such, McDonell (2011) has argued that new technology has produced class inequalities, i.e., "digital inequalities", which did not exist before.

The COVID-19 pandemic has also further brought into focus how technology is utilised by people from different social class backgrounds. Research from the Sutton Trust (2021), for example, found that students from middle class homes were about twice as likely as students from working class families to be engaging in on-line learning, and that (social class impacted upon learning at all stages of schooling). Furthermore, the Institute for Fiscal Studies (2020) reported that during the "lockdown", richer pupils spent on average six or seven hours a week

more on their education than poorer pupils, exposing inequalities with the poorest falling further behind.

Discussion (3)

Reflecting on my own experiences, I have noticed that during teacher observations, more attention is paid, and praise given, to student-centred learning than teacher-centred learning and that during continuous professional development, there is frequently more focus given to issues related to student-centred learning, such as how to achieve differentiation in the classroom or peer learning etc.

In order to help reduce the disparity in academic achievement between British pupils and those from South-East Asian countries in general, and between different socio-economic groups within the UK in particular, conditions need to be created, that are both more conducive to learning, and more supportive for those delivering learning. Such an environment needs to allow for more balance in regard to the deployment of teaching methods, and greater awareness of the importance of the need for students to have sufficient knowledge in moving forward in their subject areas.

I would further argue that within such an environment, particularly in areas of social deprivation, cultural differences that arise as a result of a home environment in which children may not have been exposed to standard English, had their language corrected, or been read to etc. could be discreetly challenged and compensated for. I would argue that those from more middle class backgrounds are often able, through their home environment, to compensate for the lack of learning opportunities, whether it is as a result of a disruptive classroom environment, teaching methods, a lack of error correction of spoken and/or written English, or guidance in the use of technology.

Studies showing the impact of social class on technology use, such as those mentioned above, have highlighted how parents' education and job status determine their children's engagement and interest in digital technology, both at home and in school and as such, inform the way in which they are able to support their children's education. I would argue therefore, that increasing the use of digital technology in schools is not the main issue in regard to reducing the digital divide between children of differing social classes, rather it is children's disposition resulting from their social class that is responsible for engrained digital inequality. As technology becomes more and more integrated into people's everyday lives, and its use is further developed and pushed forwards in education, the growing inequalities between social classes that it can produce needs to be reflected upon and addressed.

Conclusions

This paper has argued, through highlighting the connection between social class and language, that there is a link between this and educational achievement, and between the correlation, and the propensity and susceptibility towards types of

violence. It has argued that ethnicity and gender impact upon these links, and that in spite of measures taken in regard to types of schooling or types of teaching methods etc. in order to reduce disparities in educational achievement of children of different socio-economic background, these links have been sustained. Conclusions have been elicited in the paper, through drawing on research, reports and studies and reflecting upon the author's experiences. These experiences have included consistently observing a correlation between students" language, levels of vocabulary and general knowledge, and academic ability and achievement in education.

In regard to type of schooling, it is clear that children who go to school in more affluent areas are at an advantage in that by and large, they come from homes where they receive a greater level of support and where expectations are higher. Schools which take students based on ability, rather than through parental income, catchment area or religion, are generally more meritocratic and hence fairer, in as much as they can provide opportunities for bright working class children. However, a greater proportion of less able children are then left for the schools which do not, or are not able to, base their intake on ability. Regardless of a school's catchment area though, or the social and ethnic make-up of its pupils, I believe that if a policy of streaming classes based on ability were more commonplace, then this would provide a more suitable environment whereby a greater balance between teacher-led instruction and child-centred learning could be implemented, as well as a more suitable environment for the expectation and implementation of the use of standard English through constant and consistent error correction of spoken and written English, within schools where it is most needed. These measures would, I believe, help to compensate for the lack of opportunity to develop cultural literacy at home and hence narrow the gap in educational achievement between different socio-economic groups**.**

I would argue therefore that the studies and issues so far raised in this paper, underpin the need for state schools to implement a policy of support for their teachers to be able to constantly and consistently correct their pupils' spoken errors in regard to grammar and enunciation etc. and written errors, in order to be able to compensate for language and learning support issues related to pupils' home environment. It is important, I believe, for the use of Standard English to be promoted throughout the education system, but particularly early on in children's schooling. The necessity for such a policy would vary, with the need being greater in areas of higher social deprivation i.e., where there are greater numbers of pupils from lower socio-economic backgrounds and/or from those ethnic backgrounds with a history of educational failure. As Zera and Jupp (2000) argue, in order to compensate for the lack of educational achievement of, and create better opportunities for, particular ethnic minority groups and those who have, historically, failed in education, then the opportunities for the middle classes need to be created for all groups in society.

Standardisation and enhancement of spoken language should be viewed as an avenue towards improving educational achievement amongst those from lower socio-economic groups (and narrowing disparities between different socio-economic groups, as well as between, and within, different ethnic groups) on the

one hand, and as an avenue towards developing people's awareness of, and sensitising them to, the correlation between, language and the propensity towards, and susceptibility to, violence, on the other.

Through reflecting upon the disparities that exist between people of different social classes, gender and ethnic group, this paper has argued that it is the failure to examine the influence of people's language and literacy skills on achievement in education, and its effect on accessing cultural literacy, along with the failure to engage with, and challenge, specific aspects of culture pertinent to socio-economic status and ethnicity, that are responsible for the disparities not being addressed. It has argued that potential issues relating to growing socio-economic diversity, can be reduced through placing greater emphasis on finding common ground within diverse groups, through the standardisation of language. Diversity, I would argue, needs to be viewed in the context of the ability of people to have sufficient language skills and knowledge to engage in each other's cultures. Instead of allowing the normalisation of poor language skills and poor behaviour etc. the education system should be normalising challenging the aspects of culture that prevent social mobility and engagement, such as language use and its correlation with social class, educational achievement, and propensity towards and susceptibility to violence.

I believe, based on the evidence presented in this paper, combined with my own reflections, that the correlations outlined are palpable (i.e., that there is a strong correlation between language use and educational achievement, and between language use and propensity towards conducting, and being a victim of, violence, and as such I recommend, due to the significance of the issues raised, that more specific research, both quantitative and qualitative, should be carried out in order to ascertain and confirm the correlations and the degree to which they are present in given contexts.

Further Discussion

In education, arguments tend to centre less around consideration of language use or how we can counteract the tendency towards social class and ethnic division in schools, discussed and reflected on, in the aforementioned research, but more around how we ensure compliance with equality and diversity policies. Recent research by Dover, Major, and Kaiser (2016) from the Harvard Business School, however, concluded that, "The most commonly used diversity programs do little to increase representation of minorities and women" and that organisations' "anti-discrimination policies often made them, "less accountable for discriminatory practices". Moreover, their research found that, "… pro-diversity messages signalled to … white men that they might be undervalued and discriminated against" regardless of their political ideology, or whether or not they supported the principles of diversity and inclusion. Whilst there has been much focus on the need to promote successful, diverse role models in a range of industries where they are underrepresented, the focus of diversity should, I believe, be more directed towards broadening the "pool" of people with the skills and abilities to be able to enter into professions where those skills are required i.e., through supporting those

from lower socio- economic groups with less status and power in society. In other words, in order to challenge inequitable power structures which have arisen from historical injustices, there should be less of a focus on finding measures to address under- representation at the top in the higher echelons of society (e.g., the number of ethnic minorities in elite universities or women CEOs etc.), but more on measures to address over-representation of groups of people within low status positions in society (e.g., black Caribbean students are three times more likely to be excluded from schools than their white counterparts (DfES 2006)) on the basis that they are greater in number, and they could act as a measure to challenge and counteract inequalities and injustices that arise as a result of socio-economic division and its association with language.

To highlight the issue of inequalities and disparities arising as a result of differences in the use of language, the following anecdotes can be considered:

- Although at one time women and ethnic minorities were under- represented in TV broadcasting, people of different ethnic groups, age and gender are now regularly seen presenting the News on TV. The commonality amongst them is suitable qualifications and the speaking of Standard English reflecting a good education and middle class culture. However, within each ethnic group, gender and age range etc. there is a wide gamut of people from different social classes who, due to their lack of qualifications and access to sufficient language skills, are excluded from the application process in spite of the fact job adverts may state that applications from Black, Asian and Minority Ethnic candidates are particularly welcome as they are currently under-represented. The same can be said for a number of other occupations and jobs, where relevant qualifications and a good command of the English language are expected.
- If we compare and contrast, for example, two teenagers (of whatever ethnic group or gender), one a university undergraduate and one a gang member, a stark contrast in relation to their language use (in terms of their grammatical structures, enunciation, vocabulary and use of "street" slang etc.), as well as qualifications, would be found, mirroring their future life chances, job opportunities, health, and propensity and susceptibility to violence etc. as well as their ability to engage with, and learn from, people of other cultures.
- If a group of vulnerable people, or a lone vulnerable person, were to come into contact with a group of youths on the street, then assuming the youths could not be seen (i.e., discarding ethnic group or gender), then from the perspective of the vulnerable (whether consciously or subconsciously), the youths' language would be a factor in determining their propensity towards possible violence, and in instilling, and justifying, a sense of fear within the vulnerable.
- During "lockdown" in the COVID-19 pandemic, phone calls reporting domestic violence were made every 30 seconds. I would argue that the vast majority of perpetrators and victims of domestic violence speak with non-standard English.

The above anecdotes are just a few examples of links between spoken language and education, employment, propensity and susceptibility to violence, and opportunities in, and quality of, life that could be further investigated. In reflecting upon each of the above anecdotes, and much of the research outlined so far in this paper, it is hard to ignore the role of human nature in regard to causes of such inequalities and injustices. A question needs to be asked as to whether or not the cruelty of denying through language, that which many take for granted, as described by Purves (2012), a cruelty reflected in human nature, simple political convenience or, in fact, an entwined, and interdependent mixture of both? According to Sheskin (2018), for example, deep rooted in human psychology is a propensity towards fair inequality (as opposed to unfair equality), the reasons for which include the belief that we could become one of the wealthier people ourselves, and the belief that it promotes industriousness and social mobility. As people become wealthier, or increase their status in society (along with accompanying health benefits and increased life expectancy etc.), others will feel "left behind", creating greater economic disparity and social division between people. The accompanying lack of economic security and welfare, however, can induce a sense of cultural anxiety and erode a sense of belonging, making people anchor themselves more in a sense of place and tradition, the effect of which can be to create further social division.

People accepting and knowing their place and role in society, due to cultural poverty and/or their socio-economic status, due in part to their lack of language skills and concomitant lack of knowledge, it could be argued, has always been used and exploited by groups in power. It could be further argued that this has been enhanced by that which is in our nature, namely that we are stuck with a desire and need to see others in worse conditions than ourselves, an observation expressed, for example, by George Price (Harman, 2011) who, in attempting to define a mathematical, biological and evolutionary representation of altruism, concluded that it is not only being nice to others that benefits us, but that conversely, doing other people down also benefits us.

Has society irreversibly adjusted to accommodate for wide socio-economic diversity and its concomitant differential in people's level of language and literacy skills, cultural capital, wealth, health and life opportunities that exist between people of different social class and ethnic groups, or could the standardisation of language, along with the trait of having the desire and will, interest and ability to engage with and to share knowledge, be the necessary ingredients that can help to counteract and dampen the antagonistic evolutionary drivers inside of ourselves? And, is it not these drivers that can not only give rise to, or are contributory factors towards, conflict between individuals and between groups of people, but which can be exploited by those in power within organisations?

If the education system is to challenge the unfairness and inconsistencies brought about by socio-economic diversity and a lack of understanding over the impact of language on students' learning and future quality of life, and if there is to be an open and transparent discussion over educational doctrine and the consequences on students' learning, then it needs to adapt itself to tackle the more challenging issues of political expediency and aspects of human nature that promulgate socio-economic division and its consequences.

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Explaining the Low Enrollment Intention at International Universities in Indonesia: A Serial Mediation Study

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This paper aims to explain the unsuccessful relationship between the awareness of prominent international education brands and enrollment intention. A serial mediation model encompassing perceived congruity and brand attitude was developed and was tested using the Partial Least Square-Structural Equation Modeling (PLS-SEM) technique involving 132 respondents. The results revealed that the brand awareness must be subsequently perceived as internally congruent with the prospective students' self-image in terms of resource sufficiency before developing enrollment intention by forming the desired brand attitude. The originality of this study is that it could be the first to discuss the international universities landscape in Indonesia. In addition, the proposed model could be a plausible framework for explaining the intention to accept not only international education brands but also other brands of goods and services, hence benefiting both educational and consumer research. This paper includes generalizability as its limitation with suggestions to undertake the broader scope of studies.

Keywords: international universities, brand awareness, perceived congruity, brand attitude, enrollment intention

Introduction

Following the implementation of the General Agreement on Trade in Services (GATS) in 1995, education has become an internationally tradable service. As a result, the number of students studying abroad has doubled from about 2.1 million in 2001 to 4.6 million in 2017 (Study International, 2018). Studying abroad drives numerous benefits for the international students and the economies of destination countries (Mellors-Bourne, 2017). However, there are also many barriers to pursuing international education, such as hefty overall costs, family commitments, and other personal issues.

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The concept of Transnational Higher Education (TNHE) was introduced to resolve such obstacles. TNHE occurs when an education provider delivers its services across and beyond its country of origin. There are three identified modes in the TNHE delivery: distance mode, in-country delivery mode, and blended mode (Francois, 2016). In Indonesia, the in-country delivery mode is the current practice as the method drives many advantages, such as lower tuition fees than those charged in the country of origin, no associated costs of living, airfares, and health insurance, as well as the comparable value of the degrees and qualifications obtained than those granted in the country of origin (Mellors-Bourne, 2017).

TNHE institutions, referred to as international universities henceforth, operating in Indonesia must partner with local establishments due to Indonesian government restriction on foreign ownership. Some of such partnerships are Central Queensland University with Bakrie University, the University of Queensland with Indonesia Institute of Life Sciences, North Umbria School of Design with Binus University, Monash College with Jakarta International College, the University of Hertfordshire with Raffles College, Raffles Design Institute, LaSalle College in Jakarta and Surabaya, and BTEC UK with Unisadhuguna International College. These institutions offer a wide range of qualifications, from certificates to bachelor's and master's degrees.

Those international universities are in existence due to several motives. First, there has been an initiative from the Indonesian government to liberate and improve the existing local institutions' quality and competitiveness at the international level (Danyathi, 2016). Secondly, Indonesia is undeniably a huge market for education businesses, with the number of high school students currently approaching ten million. Lastly, there has been a strong and growing demand from students from the upper strata of society for international education (Tadjudin, 2000). It can be argued that international universities in Indonesia should have a good outlook. In addition, international universities can improve their prospects of attracting students by leveraging their global brands, which are associated with high quality and prestige (Özsomer, 2012). Unfortunately, most, if not all, of them currently suffer from a shortage of student's number as their primary source of revenue. The research gap is clear that the awareness of the esteemed international education brands has been unable to influence the enrolment intention, in contrast to the Theory of Brand Equity. This study aims to explain the unsuccessful relationship.

Literature Review

Synthesizing Two Theories

The Theory of Planned Behavior (TPB) variables were synthesized with the Theory of Self-Congruity (TSC) and were established as mediators to achieve the research objective. The mediation approach in brand equity studies was justified by Rambocas, Kirpalani, and Simms (2018). The basic tenet of TPB is that attitude, subjective norm, and perceived behavioral control influence behavioral

intention. Moogan, Baron, and Bainbridge (2001) stated that university choice is influenced by prospective students' aptitude and their reference group consisting of family members and friends (Goh, Nguyen, and Law, 2017) in higher education marketing. It can be inferred that a prospective student's aptitude corresponds to TPB's perceived behavioral control, which is the individual's understanding of their capacity to perform a specific action. Likewise, the influence of the reference group corresponds to TPB's subjective norm, which is an individual's perceptions of social pressure on whether to perform an action.

Recently, it was highlighted that businesses must develop brands congruent with what customers want and need (Alvarado-Karste & Guzmán, 2020). In facilitating such a notion, this study employed TSC. Marketing researchers have also used the theory to describe consumer behaviors, such as brand attitude, purchase intention, brand choice, satisfaction, trust, and commitment (Sirgy, 2018). In higher education marketing, self-congruity has explained students' satisfaction, trust, commitment, and social benefits (Japutra, Wang, & Li 2021). According to TSC, similar to humans, products and services have personal images, such as youthful, friendly, and modern. Such images were termed product-user images and interact with the consumer's self-image. Self-congruity is a subjective perception that results from such interactions. Consumer behavior is influenced by the congruence resulting from a psychological contrast between the product-user image and self-image (Sirgy, 2018).

From the previous description, it is clear that both TPB and TSC explain behavioral intention. It can then be inferred that perceived congruity is a concept of conformity in both a prospective student's internal and external states. Such a conclusion extends the TSC. The TPB was also extended that the variable of perceived behavioral control related to prospective students' aptitude can be translated to internal perceived congruity. The variable of subjective norm related to the reference group's influence can be translated to external perceived congruity. The two new variables can be defined respectively as prospective students' own perception (internal) and the reference group's perception (external) about the prospective student's self-image of resource sufficiency (e.g., self-interest, financial situation, intellectual capabilities, and opportunities) relative to the resource sufficiency image of the students currently studying at the intended international university.

Establishing Relationships

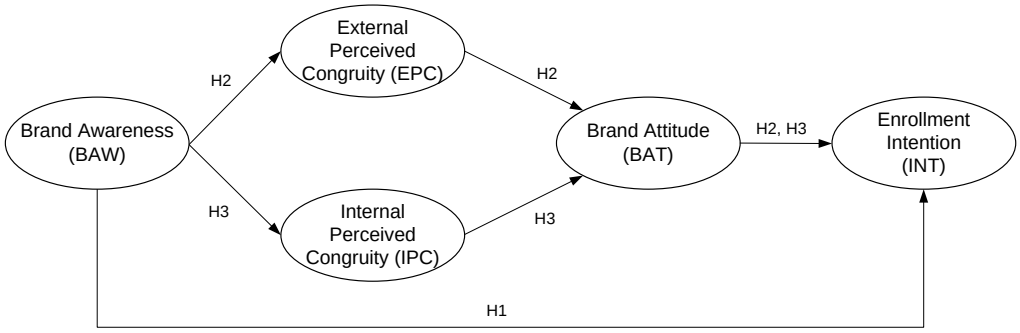
The early models of self-congruity were just developed in the 2000s (Sirgy, Grewal, & Mangleburg, 2000; Sirgy, Grzeskowiak, & Su, 2005; Sirgy & Su, 2000). The serial mediation concept later evolved in the subsequent works (Close, Krishen, & Latour, 2009; Wu & Lo, 2009). The reason for using the serial mediation concept of self-congruity and attitude in the relationship between external cues and the behavioral intention was explained in Kang, Tang, and Lee (2015). Marketing scholars agreed that customers evaluate products from two aspects: 1) product-user image (symbolic attributes) relating to self-congruity via peripheral route and 2) product attributes (functional attributes) relating to

functional congruity via central route. It was further described that consumers first develop a positive attitude about an object via the peripheral route, after which personal relevance and product knowledge can be improved. Such a persuasion process occurs consecutively (serially).

Building Theoretical Framework

The preceding synthesis enabled this study to introduce two new variables of internal perceived congruity and external perceived congruity aligning with the cognitive response domain's similarity (Tasci & Pizam, 2020). Both were positioned after the external cue of brand awareness. As the psychological assessment of an object, the TPB's variable of attitude was translated into brand attitude. It was defined as the overall evaluation of an international university brand by the prospective students (Siu, Kwan, & Zeng, 2016). Such variable was positioned after the perceived congruity variables. This study proposed a serial mediation model to understand better the relationship between variables, as shown in Figure 1.

Figure 1. Serial Mediation Model of Behavioral Intention



Developing Hypotheses

The positive and direct association between brand equity and purchase intention has been well documented (Bian & Liu, 2011; Wang & Li, 2012). Brand equity can be operationalized as multidimensional, consisting of brand awareness, brand loyalty, perceived quality, brand associations, other proprietary assets (Sudhana, Noermijati, Sabil Hussein, & Khusniyah Indrawati, 2021). Brand awareness is defined as the strength of a brand's presence in the target audience's minds over time (Rodríguez-López, del Barrio-García, & Alcántara-Pilar, 2020). Brand awareness was highlighted as the antecedent in this study since many past studies have placed it as the primary component in brand equity. Therefore, it was hypothesized H1: brand awareness (BAW) relates positively to enrollment intention (INT).

The transmittal approach posited in Rungtusanatham, Miller, and Boyer (2014) was adopted to develop subsequent hypotheses. With such an approach, mediation hypotheses were developed without articulating hypotheses relating

BAW to EPC, BAW to IPC, BAW to BAT, EPC to BAT, IPC to BAT, and BAT to INT. Therefore, it was hypothesized:

> H2: external perceived congruity (EPC) and brand attitude (BAT) serially mediate the relationship between brand awareness (BAW) and enrollment intention (INT).
> H3: internal perceived congruity (IPC) and brand attitude (BAT) serially mediate the relationship between brand awareness (BAW) and enrollment intention (INT).

Significance of the Study

The significance of this study is threefold. First, this study could be the first to discuss the international universities landscape in Indonesia. Understanding consumer behavior has always been the success key of every business, including those of international universities. A quantitative descriptive study is needed to understand the determinants of the enrollment intention of international universities operating in Indonesia. Such study is important so that an understanding of the theoretical aspects can be developed which in turn can be put into practice by the management of international universities. The analysis will assist any future strategies, especially in the sales and marketing campaigns. Furthermore, by synthesizing the two employed theories (Theory of Planned Behavior and Theory of Self-Congruity), this study extended both in terms of internal and external states and resource sufficiency. Finally, this study implemented the state-of-the-art methodology of serial mediation to investigate the underlying causal chains of the hypothesized relationships.

Methodology

Research Design

The quantitative methodology was employed using questionnaire distributed in June 2021 as the data collection method. This study was undertaken within a case international university operating in Indonesia, which will be referred henceforth as "UniX". The university is Canadian based and offers undergraduate vocational qualifications in arts and design.

Population and Sample

The population was defined as leads obtained from UniX marketing activities for the 2021 enrollment year, totaling 4080 leads. According to Gleanster Research, not all leads have adequate brand awareness and only a quarter (25%) of them are good enough to advance to sales (Lead Forensics, 2017). Lead scoring can differentiate which leads are ready to buy and which are not. Based on such reasoning, 75% of the leads were omitted using quartile analysis. The population thus became 941 prospective students. For social science and business research, Hair, Hult, Ringle, and Sarstedt, (2017) suggested using the G*Power software (Erdfelder, Faul, Buchner, & Lang, 2009) to perform the power analysis in

determining the sample size. It was added that the following inputs are to be used (Memon et al., 2020): F tests as the Test family, Linear multiple regression: Fixed model, R^2 deviation from zero as the Statistical test, A priori: Compute required sample size – given α, power, and effect size as the Type of power analysis, 0.15 as the Effect size f2, 0.05 as α err prob, and 0.80 as the Power (1 – □ err prob). Using 4 as the number of predictors in this study, the software generated a required sample size of 85. The simple random sampling method was adopted since the leads database has sequential numbers. Microsoft Excel was then used to generate the random numbers of respondents to whom invitations were sent to fill up the questionnaire. The self-administered survey was done online using Google Form. In total, the online survey collected 167 responses, with 35 responses excluded due to incomplete and straight-lining issues. Accordingly, the net response is 132 and is larger than the required sample size.

Analytical Methods

The analytical methods were carried out in two stages: (1) assessment of the reliability and validity of the measurement model and (2) assessment of the structural model to determine the hypothesized relationships (Hair, Hult, Ringle, & Sarstedt, 2017). The PLS-SEM technique with SmartPLS 3 software was used in all stages to test the relationships between variables due to its ability to handle a complex model.

Results

Demographic

The respondents' demographic data are presented in Table 1. Some interesting phenomena can be observed. First, the age characteristics have come as a surprise, where more than half of the respondents are 21 years and older. As discussed in Sudhana, Ameen, Isaac, and Nusari (2019), that can be attributed to the fact that Indonesian parents perceive conventional college majors, such as business, engineering, law, and sciences, will give their children better job prospects. Therefore, parents tend to discourage fresh high school graduates (i.e., younger than 21 years) from studying relatively unfamiliar majors, such as arts and design. Second, prospective female students outnumber their male counterparts by more than three times. Statistics of higher education enrolments in the US (USNews.com, 2019) and the UK (HESA, 2018) also recorded similar evidence. Third, the division of the streams in secondary education in Indonesia is simply a means for the government to accommodate students' diverse interests, talents, and abilities (Siregar, 2011). As appeared in Table 1, there was a mix of the prospective students' streams, signifying that study programs in arts and design are open to any student's background. The balanced mix of the prospective students' streams represents that study programs in arts and design are available for any student's background. Lastly, the evaluation of parents' occupation and level of education

suggests that international-oriented education has more appeal to prospects with entrepreneurial parents having a good level of education.

Table 1. Demographics of the Respondents

Characteristics	Groups	Frequency	Percentage (%)
Age	18 or less	18	13.6
	19–20	40	30.3
	21 or above	74	56.1
Gender	Male	30	22.7
	Female	102	77.3
High School streams	Natural science	67	50.8
	Social science	65	49.2
Parent's occupation	Government officers	14	10.6
	Private employees	44	33.3
	Entrepreneurs	74	56.1
Parent's level of education	Doctorate	0	0.0
	Master's degree	10	7.6
	Bachelor's / Diploma	105	79.5
	Senior High school	12	9.1
	Lower than Senior High	5	3.8
Preferred University Major	Natural Science	15	11.4
	Social Science	34	25.7
	Engineering	12	9.1
	Health Science	8	6.1
	Arts and Design	58	43.9
	Others	5	3.8
TOTAL		132	100%

Measurement Model Assessment

The measurement model assessment evaluates the reliability and validity of construct measures. There were three criteria in the evaluation: convergent validity, internal consistency, and discriminant validity (Hair, Hult, Ringle, & Sarstedt, 2017). Using the PLS Algorithm routine, PLS path model estimation was performed in SmartPLS to assess the measurement model. Table 2 details the assessment results of the indicators, which are all closed questions ranked by a 5-point Likert scale with 1 = "strongly disagree" until 5 = "strongly agree". The first run of the PLS Algorithm routine resulted in a singular matrix problem, thus one indicator of intention variable (INT1) was dropped from further analysis. As can be observed from Table 2, all criteria of the measurement model assessment were satisfied.

Table 2. Measurement Model Assessment Results

Variable (Sources)	Indicator Items		Convergent Validity		Internal Consistency		Discriminant Validity
			Outer Loadings > 0.708	AVE > 0.50	Cronbach's Alpha 0.60 – 0.90	Composite Reliability 0.60 – 0.90	HTMT ratio < 0.90
Brand Awareness (BAW) (Buil, de Chernatony, & Martínez, 2008)	BAW1	I am aware of the school called UniX.	0.960	0.951	0.987	0.990	Yes
	BAW2	I can recognize UniX among other competing international universities.	0.991				
	BAW3	I know what UniX looks like.	0.988				
	BAW4	When I think of international universities, UniX is one of the institutions that comes to my mind.	0.965				
	BAW5	UniX is an international university that I am familiar with.	0.971				
External Perceived Congruity (EPC) (Tasci & Pizam, 2020)	EPC1	My reference group sees that the image of students enrolling at UniX matches my self-image.	0.973	0.951	0.974	0.983	Yes
	EPC2	My reference group sees me as having the willingness and the ability to enroll at UniX.	0.982				
	EPC3	My reference group sees me as having the resources (i.e., passion, money, intellectual capabilities, and opportunities) to enroll at UniX.	0.972				
Internal Perceived Congruity (IPC) (Tasci & Pizam, 2020)	IPC1	The image of students who enroll at UniX matches my self-image.	0.986	0.981	0.991	0.994	Yes
	IPC2	I have the willingness and the ability to enroll at UniX.	0.991				
	IPC3	I have the resources (i.e., passion, money, intellectual capabilities, and opportunities) to enroll at UniX.	0.995				
Brand Attitude (BAT) (Ye, Bose, & Pelton, 2012)	BAT1	I feel good about UniX.	0.978	0.928	0.981	0.985	Yes
	BAT2	UniX is my favorable brand.	0.976				
	BAT3	I like UniX.	0.983				
	BAT4	I will be proud when enrolling at UniX.	0.925				
	BAT5	I trust UniX.	0.954				
Enrollment Intention (INT) (Jalilvand & Samiei, 2012)	INT2	I am willing to recommend others to enroll at UniX.	0.987	0.970	0.969	0.985	Yes
	INT3	I intend to enroll at UniX in the future.	0.983				

Structural Model Assessment

Following the acceptable results of the measurement model assessment, the structural model testing was carried out, and the results were detailed in Table 3.

Table 3. Structural Model Assessment Results

Relationship	**Path Coeff.**	***t*-values**	***p*-values**	**Hypothesis**	**Conclusion**
BAW → INT	0.158	0.947	0.344	H1	unsupported
BAW → EPC → BAT → INT	0.027	0.699	0.484	H2	unsupported
BAW → IPC → BAT → INT	0.261	3.269	0.001	H3	supported

To examine the mediating effects, Zhao, Lynch, and Chen (2010) specified that the evidence for mediation is apparent when there is a statistically significant indirect effect (t-value > 1.96, two-tailed, $p < 0.05$). In addition, specific indirect effects must be estimated for models with multiple mediators, as contained in the recent studies (Boğan & Dedeoğlu, 2020; Ghazali, Mutum, & Woon, 2019; Ülker-demirel & Yıldız, 2021). As observed from the above table, H1 is not supported. The serial mediation model is supported only when IPC and BAT serially mediated the relationship between BAW and INT as there is a statistically significant indirect effect of 0.261 ($t = 3.269$, $p = 0.001$). The variables of IPC and BAT then have a full mediator role serially, hence supported H3. However, the contrary occurs with EPC and BAT, therefore unsupported H2.

Discussion

The unsupported H1, that brand awareness does not relate positively to enrollment intention, further justifies the research gap of this study. It aligns with the results of many recent empirical studies that contrast the Theory of Brand Equity across different goods and services and consumer settings (Sudhana, Noermijati, Sabil Hussein, & Khusniyah Indrawati 2021). The unsuccessful relationship warrants fundamental research to explain the underlying mechanism of the failed relationship between external cues and behavioral intention. Mourad and Ahmed (2012) attempted to justify such variation by stating that the green brand awareness through environmental promotions failed to significantly influence the green brand preference because consumers did not necessarily understand the meaning of environmental slogans and labels of the advertised green brands. Reflecting on the brand of UniX, throughout the marketing campaigns, the public often associates UniX with something not related to higher education, such as fashion brand, garment producer, event organizer, and clothing store. The public does not understand that the portfolios are the products of design education that they can learn to create by studying through a design school such as UniX.

The unsupported H2, that external perceived congruity and brand attitude serially do not mediate the relationship between brand awareness and enrollment intention, can be attributed to the demographic result that more than half of the respondents are mature individuals aged 21 or above. At that age level, the family support diminishes, supporting the attachment-individuation theory (Slovacek, Jacob, & Flenoury, 2015). As family and friends are considered socio-economic

factors, there could be diverse and contradictive opinions that a prospective student may disregard when forming the brand attitude (Singh, 2016). However, the contrary occurs for high school students that family influence is most evident.

The supported H3, that internal perceived congruity and brand attitude serially mediate the relationship between brand awareness and enrollment intention, aligns with the retail patronage study by Sirgy, Grewal, and Mangleburg (2000) that concluded the greater the self-congruity (i.e., the match between the store patron image and the consumer's self-concept), the more likely that the consumer has a favorable attitude toward that store and the more likely that he would patronize that store. Additional studies by Sirgy and Su (2000) in tourism and Sirgy, Grzeskowiak, and Su (2005) in housing produced similar results.

Theoretical Implications

There are at least three theoretical implications of this study. First, this study has enhanced the current body of knowledge. The foundational theory highlighted in this study is brand equity. Although the topic is an important area in marketing research (Ahmad & Butt, 2012; Buil, de Chernatony, & Martínez, 2008), there is little research on higher education branding (Pinar, Trapp, Girard, & Boyt, 2011). Some studies have been performed in the context of TNHE (Hemsley-Brown & Oplatka, 2006; Pimpa, 2003; Prugsamatz, Pentecost, & Ofstad, 2006), but self-congruity was not mentioned anywhere. Furthermore, educational marketing is well-recognized in many Western countries but not in Eastern ones (Li & Hung, 2009). This study is therefore valuable due to many shortcomings above.

Second, as this study sought to eliminate the research gap, the supported hypothesis confirms that after brand awareness, internal perceived congruity must be in existence to form the desired brand attitude, which then positively and significantly influences behavioral intention.

Lastly, the introduction of the serial mediation model will benefit consumer research not only in the international education branding but also in general. As can be observed from Figure 1, the explanatory process of the model resembles those of the prominent Technology Acceptance Model (TAM). As described in Al Hujran, Aloudat, and Altarawneh (2013), the progression starts from external variables that affect perceived usefulness and perceived ease of use. Such variables then influence the attitude toward using, determining the intention to use. In this study, brand awareness functions as an external cue. The internal and external perceived congruity variables are the mediating variables affecting the brand attitude. The serial mediation model has its core in self-congruity theory, whereas TAM has self-efficacy theory as its foundation. Both models thus are contingent on self-related states. Due to the current extensive use of TAM, it can be deduced that the proposed serial mediation model could also be a plausible framework in explaining the intention to accept an international university brand equal to the TAM, which explains the intention to accept new technology.

Practical Implications

In the efforts to market educational services, the educational brand can give potential customers more trust and certainty when making purchasing decisions (Mourad, Ennew, & Kortam, 2011). It is because education is regarded as a high credence service. It is logical that customers like what they are familiar with, reducing the perceived risk associated with education services. Because of its importance, brand awareness should be the primary goal of all marketing programs, including those at international universities.

There are practical ways advisable for international universities to increase their brand awareness. First, to amplify the digital landscape. Such landscape includes but is not limited to websites, email, social networks, mobile offerings (i.e., blogs, podcasts), and videos (Jalilvand & Samiei, 2012). It is desirable because the internet has fundamentally changed the way students and universities look for and select each other (Tate, 2017). It has been well-documented that prospective university students seek information through the internet, such as tuition costs and campus life. Second, to strengthen the physical landscape. The university's actual physical landscape has to be well-managed. Therefore, physical development, academic reputation, and superior administration should always be the areas of continuous improvement. Third, co-branding and other collaboration efforts. As we live in an increasingly connected world, forming an alliance is inevitable. For example, international universities that offer engineering and design courses may co-brand or collaborate with Autodesk as the authoritative brand in computer-aided design. That way, international universities will reach a wider audience, but their brands will also be receiving support. Finally, international universities should adapt to this era of big data by holding awareness and competitiveness surveys and acting on the results. Based on the acquired insights, international universities will refine their marketing strategies, differentiate themselves from other competing institutions, and strengthen their unique selling propositions.

To overcome the problem of brand misinterpretation, Broucker, De Wit, & Mampaey (2021) suggested that higher education institutions should select suitable communication channels based on their status and position. Perceived as a boutique design school, UniX should engage in relatively modest and clustered marketing activities involving a limited number of enthusiastic participants. That way, prospecting interested leads will become more targeted and personal. Special webinars or masterclasses involving experts drawn from artists and designers can be avenues in communicating the UniX brand effectively to the target audience.

To facilitate the development of favorable brand attitude through internal perceived congruity, as recommended by Sudhana, Ameen, and Isaac (2020), UniX could host events that are attractive to young female audiences in urban lifestyle areas, such as fashion sketching workshops, fashion styling workshops, dressmaking competitions, fashion shows, and talk shows presenting famous local and foreign designers. Such events will stimulate the attendees' image of being privileged, chic, unique, and upper-class, which all are congruent to the image of UniX as an upscale and exclusive design school.

Conclusions, Limitations, and Future Research

It was concluded that the awareness of educational brands that are subsequently perceived as congruent with prospective students' internal self-image in terms of resource sufficiency would yield enrollment intention by forming the desired brand attitude. It was anticipated that the serial mediation model could be a credible framework for explaining the intention to accept international university brands and other brands of goods and services. This paper also recommended practical ways to improve brand awareness, avoid brand misinterpretation, and facilitate the development of favorable brand attitude through internal perceived congruity, which ultimately leads to enrollment intention.

Despite its contributions, this study has some limitations. This study was specifically conducted in Indonesia and within a case international university, hence it is limited generalizability. It is then necessary to determine if the findings can be replicated in other countries to understand better the impact of local education policies and cultural differences. Future research could conduct longitudinal studies to explore the role of each variable over time. Other variables, such as perceived value, could be proposed so that the overall model prediction may also be improved.

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Relationship Between Career Interest and Career Decision-Making of Grade 12 Learners in Township Secondary Schools in South Africa

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This study examined the relationship between career interests and career decision-making of grade 12 learners in township secondary schools in South Africa. The correlational survey research design was adopted. The sample size comprised 204 grade 12 learners selected from six township secondary schools. The career interest and career decision-making scales were used to collect data from the learners. The inferential statistics such as Pearson correlation, Analysis of Variance (ANOVA), and regression analysis were used to analyse data. The results indicated that the correlation between enterprising career interest and career decision-making was established to be the strongest ($r=0.535$, $n=204$, $p<0.001$), followed by the relationship between adventurous career interest and career decision-making ($r=0.465$, $n=204$, $p<0.001$), but operational career interest had the least relationship with career decision-making, $r\ (204)=0.284$, $p<0.001$. The study concludes that the career interest model, $F\ (9, 194)=17.403$, $p<0.01$, is a significant predictor of career decision-making among the 12th grade learners. The study recommends that school psychologists should do early assessment of learners to ascertain their career interests.

Keywords: Career interest, career decision-making, secondary school, grade 12 learners, township schools

Introduction

Career is a lifetime process that entails decision making that is linked to an individual's general experience. A career is a series of connected vocational knowledge and activities that are extend over an individual's life (Dobson, Gardner, Mertz, & Gore, 2014). Kaur (2016) describes career decision making as a process that entails individual's choice when choosing a career. Career decision-making is a complicated and delicate process that individuals experience in life. A prudent career decision making could be acknowledged as a decision that took place after a thorough analysis of all career preferences and personal capabilities necessary to function in a career of choice (Kaur, 2016). Making a career decision has recently developed into an extremely complex science; bearing in mind that many aspects in life affect this. However, choosing the correct career is essential in leading a satisfying life, and accomplish outstanding vocational output that sets the platform for organizational growth and development (Sovet et al., 2018). To this end, career interest is the process through which individuals investigate, explore and examine

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their interest prior to making a career decision. However, choosing the right career is a challenge for most people because converting personal interest into a practicable career could be overwhelming sometimes. Moreover, career interest is a person's inclination regarding vocational activities and environments. Nevertheless, the understanding of one's capabilities, skills, beliefs, personality and interests could help when making career decision. Exploring a probable career requires knowledge of what a person takes pleasure in doing, what they are good at and what serves as an inspiration to a person in their environment as a key factor for career motivation (Nyamwange, 2016). Therefore, it is crucial for individuals to be conscious of aspects that affect, that motivate such a significant decision from a position of adequate understanding (Nyamwange, 2016).

Recognizing one's career interest assists individuals to make informed and a more logical decision regarding career. By an individual understanding their career interests and choosing a career in this regard means that they are able to identify their strength and ability to pursue a vocation that complement their ability and supporting it with morals and principles (Bartlett, MCllveen, & Perera, 2015). Since an individual's career interest could transform eventually, it is therefore essential to identify vocational information regularly. Given that individuals preferences concerning career and vocational duties differ, based on individual interaction and integration in the environment. Career interest could take diverse forms and shapes. The knowledge of various forms of career interest could assist learners in identifying their career interest as they progress in their studies. In this study, the different areas and forms of career interest that was examined include artistic, biotic, conventional, expressive, investigative, operational, social, enterprising and adventurous career interests. In South Africa, at the time of apartheid, education was separated across racial lines to maintain white dominance (Mahlomaholo, 2012). This uneven system of education also presented the discrepancy in the provision of career guidance at schools (Buthelezi, Alexander, & Seabi, 2009) and to the world of work where jobs were set aside for whites. The function of career counselor in schools was controlled by the apartheid regulations, and the counselors need to get acquainted to the established rules and regulations, in order to provide suitable career guidance to learners as stipulated by the law (Buthelezi, Alexander, & Seabi, 2009).

It seems that learners in affluent areas of South Africa had access to career guidance compare to learners in township schools, with little or no access to career information services (Maree, 2013). Mudhovozi and Chireshe (2017) assert that career decision making among learners in South Africa is dependent on the category of school attended, parent level of education and parental income. The study further reported that schools in affluent community present learners with more career opportunities and options that are relevant to demands in the job market while schools in disadvantaged communities associated career decisions to the traditional careers, such as, nursing and teaching. In view of the above, most learners seek help from people around them, such as, parents, teachers, career officers or career counselor, who offers career guidance to learners in their professional capacity (Buthelezi, Alexander, & Seabi, 2009). Unfortunately, a number of learners in township secondary schools do not have access to the

professional service of a career guidance and counseling, which could assist them to explore their career interest before making a career decision that could favour their future (Buthelezi, Alexander, & Seabi, 2009). Plausibly, the importance of career decision-making could be emphasized by the direct influence that a good career choice has on an individual's standard of living and status in the society. Therefore, it is imperative to connect one's interest to their choice of career because deciding on a career will possibly influence individual all through their lives. Willner, Gati, and Guan (2015) concur that life is meaningfully expressed with lucidity and precision in individual's career. Therefore, suitable career decision-making could be effective when the individual is equipped with adequate information and proper career guidance. The world of work is transforming on a daily basis, which requires an individual to develop their skills as part of the requirement for an area of interest and specialization in the work place, which makes it more intimidating for the individual to decide on a certain career. Consequently, the present study examined the relationship between career interest and career decision making of grade 12 learners in township secondary schools in South Africa.

Theoretical Framework

This study was informed by the Holland's theory of career choice. Holland's (1959) theory of career choice asserts that individuals prefer to choose vocations that give them the opportunity to be around others and relate with people of like minds. Individuals look for environments that support their skills and knowledge, where they can express personal principles and values, while engaging in pleasurable activities to solve problems. The theory proposes that individual's behavior is a result of their personality and environment in which they live, which inform their values and interest through personal experiences and career choices (Holland, 1992). Therefore, Holland classified human personality into six different types: realistic, investigative, artistic, social, enterprising and conventional, and clarifies how each personality type is appropriate for specific interest and work environment (Sharf, 2013). This theory informed the study because it argues that each individual has own unique personality which influence their tendency to choose certain careers. Therefore, the theory was relevant to this study because at one time or another, individuals are faced with the challenge of work-related decision and most individuals are confronted with this issue especially when they are in secondary school and are required to choose their subject combinations at grade 10 level, which determines the career that they want to pursue in the future.

Literature Review

Research studies have indicated that some of the factors accountable for an individual's career decision-making include personality, career interests, role models, ethnic background, level of education and accessibility to essential resources such as, finances and information (Vosh & Schauble, 2014; Enache &

Matei, 2017). Moreover, Etiubon, Ugwu, and Ado (2018) assert that many individuals are influenced greatly by their parent's vocations, or the career that suits their educational achievements, still, professions that present high income and remuneration are influencing other people. However, there are individuals, who pursue careers that go with their interest and passion irrespective of the financial benefits, for the purpose, that everyday life revolves around one's career as a vital component to determine an individual's every day practice. In reality, a career influences every aspect of one's whole being. However, there are distinctions, as an individual's differs. Generally, influences on career decision-making mostly differ from one person to another, according to an individual's environment and interest. This is probably as a result of experience and support attainable in the community (Etiubon, Ugwu, & Ado 2018). Similarly, Curran, (2019) study reported that career interest is a significant predictor of the decision-making process among students and that most students highlighted their preference of keeping their personal interests and hobbies separate to their future careers.

Brown and Crace (1996) affirm that high priority values are more critical to decision making than low-priority values, and if values are not fully crystallized or the outcomes are unclear, difficulties arise and the choices made are tentative. Sagiv (2002) reported that enterprising interests were positively correlated with power and achievement and negatively correlated with universalism. Sagiv (2002) also found that enterprising interests were positively correlated with power, whereas social interests were negatively correlated with power. The study suggested that social and enterprising interests reflect similar abilities and skills but differ in the underlying motivation. In another study, Smith and Campbell (2009) reported that conventional and realistic interest types had similar value profiles, with the values of support and working conditions being the two highest values; investigative and artistic interest types had similar value profiles, with the values of achievement and independence being the two highest values; and social and enterprising interest types had similar value profiles, with relatively flat value profiles, except that the social interest type had a solitary peak on the relationships value. Smith and Campbell also found substantial canonical correlations between four of the six linear composites of interests and values. Akosah-Twumasi et al., (2018) reported that personal interest was highlighted as the major factor that influenced career choice in individualistic settings, and the youth were more independent in their career decision making and that most career decisions of students are based on their personal interests. Similarly, Bennett, Knight, Bawa and Dockery (2021) reported that students' career decision making in science oriented careers is guided by their interest in the subject.

In another study, Kazi, Nimra, and Nawaz (2017), revealed that interest in the subject is the most dominant factor influencing career choices of business students and that interest in the subject is also related and has some linkage with personality type. A study by Atitsogbe et al., (2018) reported that Swiss students are more influenced by personal interests in career decision making and that, interest differentiation was significantly associated with self-identity. Similarly, Su, (2018) study in Burkina Faso reported that vocational interest information focuses on individuals' traits and their match to particular careers, rather than seeing interest

as something that can grow and develop with appropriate support. Moreover, Gallup (2019) study reported that graduates who experienced a sense of purpose in their work were more likely to align their work with their interests, values, and strengths and participate in a programme or class that helped them think about pursuing meaningful work. Most recently, Abe and Chikoko (2020) study concluded that career interest is important in the decision-making process of students and has implication for policy decisions. In another study, Siddiky and Akter (2021) reported that the students' career choice and career preferences are determined by their personal interests to a great extent. Similarly, Anovunga, N-yelbi, and Akpadago (2021) reported that career interest of an individual greatly affects their preferred vocational choice or development. Moreover, Jemini-Gashi and Kadriu (2022) reported that personal interest for a certain academic field was among the facilitating and determining factors for them during their process of career decision-making. In south Africa, Chinyamurindi, et al., (2021) study showed that learners' career decisions were highly influenced by academic experiences, personal interests and self-efficacy. Finally, Quinlan and Renninger (2022) reported that most students who were studying science in university had a well-developed interest that had motivated their choice of programme, and their subject interest and career decidedness were linked. The study further reported that students' interest in their subject was a significant predictor of career decidedness, mediated by students' desire to pursue that interest in their career.

From the reviewed studies, it is evident that even though studies have been carried out with objectives related to the current study, a research gap still exist because most of these studies examined career interest and basic values, but few were on career decision making. In South Africa, prior to career decision-making, learners are presented with the opportunity to choose their subjects combination in grade 10, according to their performance from their previous grade. However, learners in township schools do not have the capability to discern the subjects that could lead them to their career interests and choices. Consequently, the choices that learners make are based on their previous performance and their view of the perfect profession without considering their interest, as a result of a lack of adequate information and support in the form of career guidance and counseling. Consequently, the current study examined the relationship between career interest and career decision-making.

The Present Study

This study examined the relationship between career interests and career decision-making of Grade 12 learners in township secondary schools in South Africa.

Research Hypotheses

The following null hypotheses were tested:

Ho1: There is no significant relationship between career interest and career decision-making of grade 12 learners in township secondary schools

Ho2: The career interest model is not adequate predictor of career decision-making among the 12th grade learners in township secondary schools

Methods

Research Design

The study was located within the quantitative research paradigm and specifically, the correlational survey research design was adopted. This is a research design that involves observing two variables in order to establish a statistically corresponding relationship between them. The aim of correlational research is to identify variables that have some sort of relationship do the extent that a change in one creates some change in the other (Creswell, 2015). In this design, the purpose is to determine the relationship between the construct under investigation and takes a broad view of the obtained results of a chosen sample from the total population (Creswell & Plano Clark, 2018). Furthermore, the selected sample was similar to the population in a way necessary for the subject under investigation.

Study Participants

The target population for this study was 720 learner participants, with 120 learner participants from each of the six selected township secondary schools. The stratified random sampling technique was employed to select 204 grade 12 learners as the sample size for this study. This method was important, in order to deal with the disparity that occurred in the number of participants selected from each school. In addition, the stratified random sampling technique assisted the researcher to obtain an impartial number of participants regarding their gender, to ensure equal representation of each school in this study. Consequently, the established sample size of 204 learners was considered to be appropriate according to the recommendation by Krejcie and Morgan (1970).

Research Tools

The career interest and the career decision-making scales were used to gather the requisite data for this study. The career interest scale had 9 factors on it identified as artistic, biotic, conventional, expressive, investigative, operational, social, enterprising and adventurous. Each of the 9 interest sub-scales had 5 items. Some items in the operational career interest sub-scale include “i maintain a computer network”, and “I shape metal or plastic with tools”. Some items in the

conventional career interest sub-scale include "I regularly make neat or update an address book", and "I check paperwork or products for errors or flaw". The response scale for career interest scale was a 5-point Likert scale for the respondents to indicate the extent to which they agree or disagree with the statements such as; *Strongly Agree* (5), *Agree* (4), *Neutral* (3), *Disagree* (2) and *Strongly Disagree* (1). The career decision-making scale had 18 items some of which include; "I have decided on a career and feel comfortable with it", "I also know how to go about implementing my choice". The response format was on a four point Likert scale such as, "exactly like me" (4); "very much like me" (3); "only slightly like me" (2) and "not at all like me" (1). The internal validity of the questionnaires was ensured by using the Kaiser-Meyer Olkin (KMO) measure adequacy and Bartlett's Test of Sphericity. The internal validity results indicated that all sub-scales in the career interest and the career decision-making scales have KMO values above 0.5 and Bartlett's tests for Sphericity are highly significant ($p<0.05$), implying adequate internal validity. Moreover, Cronbach's alpha was used to ascertain the reliability of the questionnaires and the results are presented in Table 1.

Table 1. Internal Consistency: Cronbach's Alpha Results for the Questionnaires

Scales	**No. of Items**	**Cronbach's alpha**	**Decision**
Career decision making scale	18	0.842	Excellent
Carer interest scale			
• Artistic career interest	5	0.793	Good
• Biotic career interest	5	0.755	Acceptable
• Conventional career interest	5	0.762	Good
• Expressive career interest	5	0.741	Acceptable
• Investigative career interest	5	0.816	Excellent
• Operational career interest	5	0.835	Excellent
• Social career interest	5	0.821	Excellent
• Enterprising career interest	5	0.822	Excellent
• Adventurous career interest	5	0.789	Good

The reliability results in Table 1 indicate that, on career interest scale, all the sub-scales had their Cronbach's values within the appropriate range, with the least being expressive career interest at alpha=0.741 and the highest being career operational at 0.835. Likewise, career decision-making sub- scale had excellent internal consistent reliability, as interpreted from Cronbach's alpha value of 0.842. The reliability co-efficient for the two scales were considered to be appropriate because according to Madan and Kensinger (2017), the coefficients of scales that yield above 0.7, are considered acceptable, and coefficients yield above 0.8, are considered very good.

Procedure

In a research process, sufficient care should be ensured when conducting research that involves human beings, by making sure that, the participants are safe and that injury and harm are avoided (Polit & Beck, 2014). First, ethical approval

was obtained from the University of the Witwatersrand Human Research Ethics Committee. Thereafter, to access the sampled secondary schools, the researcher obtained ethical clearance from the Gauteng Department of Education (GDE). Additionally, permission to access schools was obtained from the selected schools' principals. Confidentiality, anonymity, voluntary participation, and freedom to withdraw from participation were strictly adhered to. Consequently, the researcher observed all COVID-19 protocols; the questionnaires were delivered to the six schools and handed over to life orientation teachers' in-charge of grade 12 learners, who assisted in administering the instrument. The questionnaire completion procedure and necessary information for guiding the learners in completing the questionnaire appropriately was provided to the teachers by a telephonic conversation. Furthermore, the completion process was monitored telephonically to eradicate ambiguity; the completed questionnaires were collected from the schools with COVID-19 protocols duly observed. Each learner participant took an average of 30 minutes to fill in the questionnaires after which they were collected and handed back to the researchers.

Data Analysis

Responses from the administered questionnaires were converted from the raw data into a structure after which the data analysis began. The data was then scored and assigned numerical values to each response by creating special categories (Miles, Huberman, & Saldana, 2014). The researchers employed descriptive statistics such as frequencies and percentages to analyse data, which are applied for labeling, summarizing and creating sense of a specific set of data (Creswell & Plano Clark, 2018). Recording and collating was performed using the statistical package for the social sciences (SPSS) computer program version 24. The null hypotheses were tested at the 0.05 level of significance. Inferential statistics such as Pearson product moment correlation were used to analyze the relationship between career interests and career decision-making. Moreover, multiple regression analysis was used to analyse the associations between two or more independent variables and structural equation modeling was used to analyze the structural relationship between variables.

Results

Relationship between Career Interest and Career Decision-Making

This study sought to ascertain the relationship between career interest and career decision-making. Career interest was operationalized using nine sub-themes which included artistic, biotic, conventional, expressive, investigative, operational, social, enterprising and adventurous. In testing the hypothesis that, "there is no significant relationship between career interests and career decision-making of grade 12 learners in township secondary schools", the data was analysed using Pearson product moment correlation and regression analysis. The career interest

was the predictor variable while career decision-making was the response variable. First, the correlation between the aspects of career interests and career decision making was calculated to determine the direction and magnitude of the linear relationships, as shown in Table 2.

Table 2. Correlations Between Career Interest and Career Decision-Making

Career Interest	N	**Pearson Correlation Career Decision-Making**
Artistic career interest	204	0.412**
Biotic career interest	204	0.296**
Conventional career interest	204	0.342**
Expressive career interest	204	0.353**
Investigative career interest	204	0.303**
Operational career interest	204	0.284**
Social career interest	204	0.428**
Enterprising career interest	204	0.535**
Adventurous career interest	204	0.465**

*. Correlation is significant at the 0.05 level (2-tailed).
**. Correlation is significant at the 0.01 level (2-tailed).

As presented in Table 2, a Pearson product-moment correlation coefficient which was computed to assess the relationship between the variables indicate that there is generally a direct and positive relationship between career interest and career decision-making among the 12th grade learners. However, the magnitude of the relationships varied among the aspects of career interest. For instance, the correlation between enterprising career interest and career decision-making was established to be the strongest (r=0.535, n=204, p<0.001), followed by the relationship between adventurous career interest and career decision-making (r=0.465, n= 204, p<0.001), but operational career interest had the least relationship with career decision-making, r (204)=0.284, p<0.001). Equally, all other aspects of career interests had statistically significant positive relationship with career decision-making among the 12th grade learners. Overall, there was a plausible positive correlation between career interests and decision-making on career choice. This suggests that generally a higher career interest is associated to a faster decision making on career choice among grade 12 learners. Further, model summary and regression equations were generated where the predictor variables were the individual aspects of career interest and dependent variable being decision making on career choice. Table 3 shows summary of regression analysis results.

Table 3. Regression Results on Career Interests and Career Decision-Making

Career Interests	**B**	**Std.**	**Beta**	**t**	**Sig.**	**Part**
(Constant)	1.745	0.088		19.868	0.001	
Artistic career interest	0.119	0.042	0.17	2.805	0.006	0.07
Biotic career interest	0.058	0.045	0.077	1.302	0.195	0.065
Conventional career interest	0.052	0.043	0.078	1.224	0.222	0.075
Expressive career interest	0.054	0.039	0.084	1.397	0.164	0.056
Investigative career interest	0.04	0.038	0.064	1.05	0.295	-0.004
Operational career interest	-0.003	0.039	-0.005	-0.082	0.935	0.103
Social career interest	0.077	0.04	0.123	1.927	0.045	0.195
Enterprising career interest	0.146	0.04	0.251	3.659	0.003	0.168
Adjusted R^2	0.421					
F-ratio	17.403**	df1=9 df2=194				

As indicated in Table 3, using the enter method, it was found out that the model was able to account for 42.1% (Adjusted *R* Square=0.421) of the variance in career decision-making among the 12th grade learners. To assess the statistical significance of the result, a multiple regression Analysis of Variance (ANOVA) results was interpreted with the null hypothesis being that multiple R in the population equals 0. The results of the study show that the model reached statistical significance, F (9, 194) = 17.403, $p<0.01$, suggesting that the career interest model is a significant predictor of career decision-making among the 12th grade learners. However, exploration of Beta values indicates that the individual aspects of career interest varied in their level of influence on career decision-making. For instance, of these eight variables, enterprising career interest makes the largest unique contribution (beta=0.251). This suggests that when a learner's enterprising career interest rise by one standard deviation, the learners' ability to make career decision improves by 0.251 standard deviations. Equally, rise in the level of social career interest by one standard deviation, would results into improvement of career decision-making by .125 (*beta*=-0.125) standard deviations.

The other potentially useful piece of information in this regression results is the part correlation coefficients, which gives an indication of the contribution of each of the aspect of career interest to the total R squared. For instance, the results showed that artistic career interest has a part correlation coefficient of 0.150, biotic career interest of 0.070, conventional career interest of 0.065, expressive career interest of 0.075, investigative career interest of .056, operational career interest of -0.004, social career interest of 0.103, enterprising career interest of 0.195 and adventurous career interest had part correlation of 0.168. Squaring these values indicates how much of the total variance in the career decision-making is uniquely explained by the variable and how much *R* squared would drop if it wasn't included in the model. For example, enterprising career interest which has the largest contribution to the model uniquely explains 3.8% and adventurous career interest uniquely explains 2.8% of the variance in career decision-making. However, operational career interest only accounted for a negligible amount (<0.001%) of the variance in career decision-making. Its noteworthy that total *R S*quared value for the model (0.421 or 42.1 per cent explained variance) was not equal to all the

squared part correlation values added up because overlaps or shared variance were removed.

In addition to these findings, the regression equations were extracted to help predict the influence of career interest on career decision-making among the 12th grade learners. The study was guided by a general regression prediction model as follows:

Career Decision-Making = $\beta 0+\beta_1X_1+\beta_2X_2 + \beta_3X_3+ \beta_4X_4 + \beta_5X_5 + \beta_6X_6+ \beta_7X_7 + \beta_8X_8 + \beta_9X_9 + \varepsilon$

Where; X_1=Artistic, X_2=Biotic, X_3=Conventional, X_4=Expressive, X_5=Investigative, X_6=Operational, X_7=Social, X_8=Enterprising and X_9=Adventurous and ε being error term. Thus, the predicated optimum level of career decision making among 12th grade learners in secondary school was represented by:

Career Decision-Making=1.745 units + 0.119 X_1*units* + 0.058 X_2*units* + 0.052 X_3*units* + 0.054 X_4 units + 0.040 X_5*units* - 0.003 X_6*units* + 0.077 X_7*units* + 0.146 X_8 units + 0.121 X_9 units + error

From the model, the coefficients indicate how much career decision making changes with a change of an aspect of career interest when all other variables are held constant. However, the results of the study show that whereas some of the aspects of career interest had significant change on career decision-making when increased by one unit, others did not cause any significant change. For instance, those with significant unstandardized coefficient values included artistic career interest (*B*=0.119; *t*=2.805, *p*=0.006), social career interest (*B*=0.077; *t*=1.927, *p*=0.045) and enterprising career interest (*B*=0.146; *t* =.3.659, *p*=0.003), implying that change on career interest by one unit causes a significant increase on career decision-making. On the other hand, the coefficients values for biotic career interest (*B*=0.058; *t*=1.302, *p*=0.195), conventional career interest (*B*=0.052; *t*=.1.224, *p*=0.222), expressive career interest (*B*=0.054; *t*=.1.397, *p*=0.164), investigative career interest (*B*=0.04; *t*=0.1.05, *p*=0.295) and operational career interest (*B*=-0.003; *t*= -0.082, *p*=0.935) were not significant, suggesting that change in them by unit would not make any significant change in career decision making regression model. However, the model was statistically significant *F* (9, 194)=17.403, p<0.01, R^2 Adjusted=0.421. This indicates that the model is a significant predictor of career decision-making among the 12th grade learners.

Using a multiple regression analysis, the investigated null hypothesis was that H_0: $\beta_1=\beta_2=\beta_3=\beta_4=\beta_5=\beta_6=\beta_7=\beta_8=\beta_9=0$ and the corresponding alternative hypothesis being H_1: at least one $\beta_{i \neq} 0$. If the null hypothesis is true, then from $E(Y) = \beta_0 + \beta_{i = 1\text{-}9}\ X_{i=1\text{-}9}$ the population mean of Y is β_i for every X value, which indicates that X (career interest) has no influence on Y (career decision-making) and the alternative being that career interest has statistical significant influence on career decision-making. Based on the findings of the regression equation in Table 3, the null hypothesis which stated that, *there is no significant relationship between career interest and career decision-making of grade 12 learners in Township secondary*

schools, was rejected. Hence, the alternative hypothesis which states that career interest has significant effect on career decision-making among 12th grade learners was adopted. It was therefore concluded that career interest has a significant positive effect on career decision-making among the 12th grade learners in secondary schools.

Discussion

This study sought to ascertain the relationship between career interest and career decision-making. The study indicated that, the correlation between enterprising career interest and career decision-making was established to be the strongest, followed by the relationship between adventurous career interest and career decision-making, but operational career interest had the least relationship with career decision-making. Equally, all other aspects of career interests had statistically significant positive relationship with career decision-making among the 12th grade learners. In overall, there was a plausible positive correlation between career interests and decision-making on career choice. This suggests that generally a higher career interest is associated to a faster decision making on career choice, and that learners with artistic career interest, social career interest and enterprising career interest, reported significant effect in their career decision-making. This finding supports Holland's (1959) theoretical assertion that individuals prefer to choose vocations that give them the opportunity to be around others and relate with people of like minds. Individuals look for environments that support their skills and knowledge, where they can express personal principles and values, while engaging in pleasurable activities to solve problems. Similarly, Holland (1992) also argue that individual's behavior is a result of their personality and environment in which they live, which inform their values and interest through personal experiences and career choices. Moreover, Willner, Gati, and Guan (2015) concur that, suitable career decision-making could be effective when the individual is equipped with adequate information and proper career guidance. Similarly, Enache and Matei, (2017) also indicated that some of the factors accountable for an individual's career decision-making include career interests. In agreement, Abe and Chikoko (2020) concluded that career interest is important in the decision-making process of students and has implication for policy decisions. Similarly, Siddiky and Akter (2021) reported that the students' career choice and career preferences are determined by their personal interests to a great extent. In addition, Anovunga, N-yelbi, and Akpadago (2021) reported that career interest of an individual greatly affects their preferred vocational choice or development. Moreover, Jemini-Gashi and Kadriu (2022) reported that personal interest for a certain academic field was among the facilitating and determining factors for them during their process of career decision-making. In agreement, Chinyamurindi, et al., (2021) showed that learners' career decisions were highly influenced by academic experiences, personal interests and self-efficacy.

The results of the study also showed that the career interest model is a significant predictor of career decision-making among the 12th grade learners, and

that enterprising career interest which has the largest contribution to the model and adventurous career interest accounted for a small variance in career decision-making. However, operational career interest only accounted for a negligible amount of the variance in career decision-making. This finding supports Etiubon, et al., (2018) which assert that there are individuals, who pursue careers that go with their interest and passion irrespective of the financial benefits, for the purpose, that everyday life revolves around one's career as a vital component to determine an individual's every day practice. Etiubon, et al., (2018) further argues that, influences on career decision-making mostly differ from one person to another, according to an individual's environment and interest. This is probably as a result of experience and support attainable in the community. Moreover, Brown and Crace (1996) affirm that high priority values are more critical to decision making than low-priority values and that, if values are not fully crystallized or the outcomes are unclear, difficulties will arise and the choices made will be tentative (choosing liberal arts major). In agreement, Sagiv (2002) reported that enterprising interests were positively correlated with power and achievement and negatively correlated with universalism. the study also found that enterprising interests were positively correlated with power, whereas social interests were negatively correlated with power. In addition, Smith and Campbell (2009) reported that conventional and realistic interest types had similar value profiles, and that there are substantial canonical correlations between four of the six linear composites of interests and values. Moreover, Gallup (2019) reported that students who experienced a sense of purpose in their work were more likely to align their work with their interests, values, and strengths and participate in a programme or class that helped them think about pursuing meaningful work. Finally, Quinlan and Renninger (2022) reported that students' interest in their subject was a significant predictor of career decidedness, mediated by students' desire to pursue that interest in their career.

Conclusions

The study concludes that the career interest model is a significant predictor of career decision-making among the 12th grade learners. Moreover, enterprising career interest had the largest contribution but the operational career interest only accounted for a negligible amount of the variance in career decision-making. The learners with artistic career interest, social career interest and enterprising career interest, also reported significant effect in their career decision-making. Overall, the career interest model accounted for 42.1% of career decision making among learners, which means that career decisions made by learners is greatly influenced by career interests that are exhibited by learners. Therefore, it is concluded that career interest plays a major role in influencing carer decisions among learners in secondary schools. This indicates that, career interest being an internal factor among learners, it implies that their personality could be possible influencers because the two are closely interrelated.

Implications

The findings have implications for teachers, school principals, school psychologists and parents. This study contributes to significant developments in the education sector and may assist in facilitating learners' career opportunities and support learners towards achieving career success after secondary schools. The study recommends that school psychologists should do early assessment of learners to ascertain their career interests because it informs best career decision making practices among learners. This is important because early identification of career interests would lead to the most appropriate career decisions among learners and this would eventually minimize the shift from one career to another as a result of mismatch between an individual and career. The study also recommends that teacher counsellors should utilize the career interest results to provide guidance on career decision making among learners. This would ensure that learners are guided on to choosing carers that are in line with their personal interests. Moreover, the study recommends that school psychologists should adopt therapy strategies in career decision making for learners which has the steps such as: identification, awareness, and reframing. This would assist learners with dysfunctional career decision making styles. Further studies could examine home and school related factors influencing career decision making among learners.

Limitations

The study has one limitation in that it was quantitative in nature and this left out the in-depth qualitative results on career interests and carer decision making among learners. A qualitative approach could be adopted to explore the interplay between the variables. Moreover, the research was only carried out in one district in south Africa, and a survey covering schools within Gauteng province would bring a bigger picture of career decisions among learners.

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A Comparative Review of Education Policy in Brazil and South Africa: Divergent Trends in Inequality

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The literature identifies that education policies in Brazil are the backbone of their success in reducing inequality as measured by the GINI index. Since 1994, Brazil is the only BRICS (Brazil, Russia, India, China, South Africa) nation to achieve this. This article presents a comparative study of South Africa and Brazil, and the policies applied towards achieving the Sustainable Development Goals (SDG) of ensuring inclusive and equitable quality education and promoting lifelong learning opportunities for all. Using the analytical framework of the SDG, the strategies of South Africa, and Brazil regarding education are considered in order to identify patterns and themes that can potentially explain the divergence of inequality trends of the two nations. The overarching finding is that subtle differences in education policies perpetuate inequality in South Africa, whereas analogous policies contribute to equality in Brazil. The main contribution of this study is that it locates faults in otherwise well-meaning education policies in South Africa.

Keywords: comparative education, policies, Brazil, South Africa, inequality

Introduction

A quality education system should allow people to accumulate human capital, which in turn will lead to the achievement of Sustainable Development Goals (SDGs), and in turn, decreased inequality and increased development. However, the fundamental nature of a country's education system may unintentionally, make it unable to fulfil this role. The repercussions of this are at best stagnation, at worst an increasing divide in society. These negative consequences manifest in static or increasing Gini indices. Brazil is a nation experiencing education success, whereas South Africa's fortunes are less discernible. This research endeavours to illuminate why two similar countries, pursuing the same goals, are experiencing contrasting patterns of success.

The United Nations Member states adopted the SDGs in 2015 (United Nations, 2022). These goals are pursued by member states, and provide a framework for achieving peace and prosperity for people and the planet, now and into the future. This study focuses on SDG 4 – quality education, which is expressed as, "ensuring inclusive and equitable quality education and promote lifelong learning opportunities for all" (United Nations, 2015). We use the vantage of this SDG as a systematic framework for our analysis. The SDG also provides a fresh perspective in comparing and evaluating education policy.

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The primary research question that this study aims to answer is, "How and why has education policy led to contrasting outcomes?" In other words, we try and solve why, with identical goals, has there been a divergence in results between Brazil and South Africa. This research is in the same thrust of Andreoni and Tregenna (2020) who emphasise how structural and institutional configurations are important in escaping the middle-income trap. Crossley and Broadfoot (1992, p. 102) advocate that research in comparative international education should follow a multi-disciplinary approach. The multidisciplinary approach that this study follows is from the perspectives of education and economics. Additionally, the study also sets out to analyse similarities and differences in educational policies and their outcomes (Crossley & Broadfoot, 1992, p. 106). According to Crossley (2019, p. 181) context matters when conducting research in comparative education. Hence this comparative study, adopts a multi-disciplinary approach, between two BRICS, countries, Brazil and South Africa whose contexts are similar. Furthermore, the intention of this study is to help gauge what policy lessons South Africa can learn in order to foster an environment where inclusive and equitable quality education and promoting lifelong learning opportunities is ensured. This study therefore also invites future research into the key differences of South African and Brazilian education policies.

To create a framework, the researchers have selected South Africa and Brazil, as both their economies are not classified as a high-income by the World Bank. Additionally, a Sustainable Development Goal (SDG) was selected, for which each country applies policy measures that contribute towards achieving the specific SDG. This provides a starting point for the analysis.

Webster (2019) identifies South Africa as the most unequal society in the world. This pervasive feature is the main underlying developmental issue facing South Africa in the twenty-first century. The fact that inequality is persistent and is increasing, is of concern.

In order to find solutions to these challenges, this study endeavours to identify a peer country that has had more success at reducing inequality. Specifically, policy divergences between the two countries are considered to suggest what South Africa could potentially implement in order to turnaround the situation. Indeed, Brazil also experiences high levels of social inequality (Pimentel, 2022). Understanding what causes inequality can help policymakers design plans and institutions in order to mitigate it.

The research method is a literature review and the findings will be presented in narrative format with a comparative study between the two selected countries. Several policies and academic sources were consulted for this article. In the literature review, the researchers (1) selected a low- or middle-income country that is an economic peer of South Africa; (2) chose a SDG; and (3) described which policies are being implemented in both countries to achieve this SDG, and specifically policies that aim to reduce inequality.

Literature Review

Introduction

The SDGs are a set of goals, targets and indicators that should frame policies for United Nation member states from 2015 to 2030 (Ford, 2015). The SDGs follow and expand on the Millennium Development Goals (MDGs), which applied over the 2000 to 2015 period. The sustainability aspect emphasises the underlying aims of economic development, environmental sustainability and social inclusions (Sachs, 2012, p. 2206).

MDGs applied to all countries but were geared towards poorer countries, whereas the SDGs are more universally pertinent (Ford, 2015). Specific objectives differ globally, between and within societies (Sachs, 2012, p. 2206) but, targets facilitate planning, and give focus to a vision and purpose for the future (Richards-Gustafson, 2015).

Country Selection

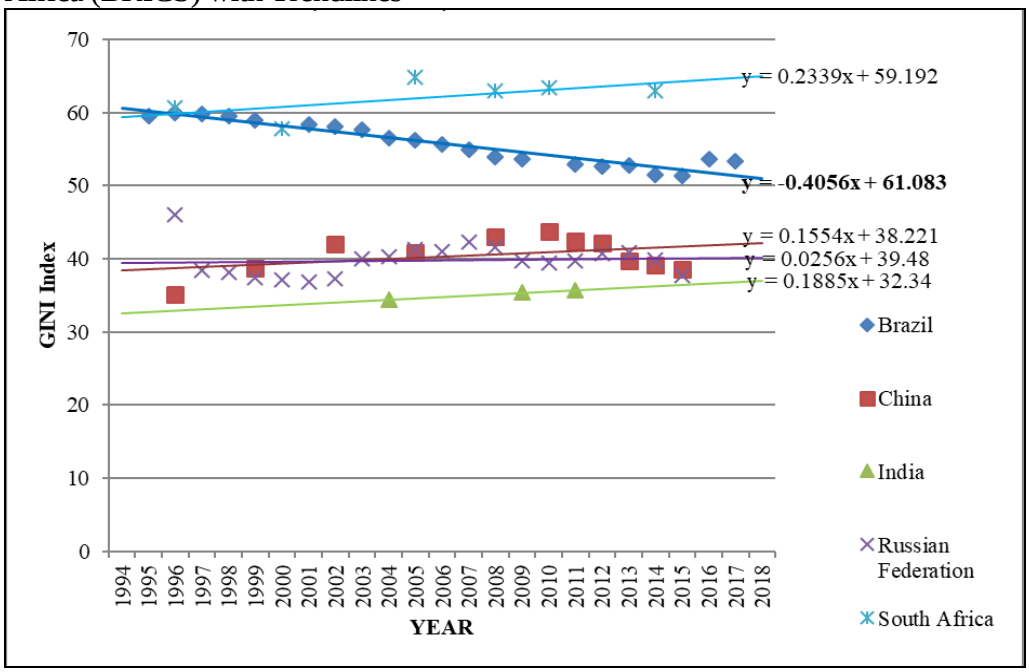
Brazil has an upper-middle income economy and like South Africa, is a BRICS (Brazil, Russia, India, China, South Africa) member, a grouping of emerging economic powers with a significant influence on regional affairs. Brazil and South Africa similarly have highly unequal income distributions (Patel, 2012).

The GINI Index measures income distribution. We use the GINI index because it encompasses the story of how policy and institutions lead to societal progress. In Figure 1, Brazil's linear trend-line's coefficient is negative, implying a decreasing GINI Index, which suggests decreasing inequality (data source: The World Bank, 2020). Brazil is the only BRICS nation where inequality is falling (Green, 2013). A consequence of this is that, since 2003 almost 40 million Brazilians were lifted out of poverty (Corbett, 2013).

In fact, we see that the shift in the GINI index for Brazil is orders of magnitude greater than the shift of the other countries. It is not only the direction of the shift that makes Brazil an interesting case study, it is the size that is significant. This is illustrated in the size of the leading coefficient, which indicates that on average as the years go by, inequality declines by 0.4 points every year. When we compare this to the other countries, as indicated in Figure 1, we note that Russia, China and India for instance have experienced mixed outcomes over the sample period.

Brazil is the world's ninth largest economy in terms of gross domestic product (GDP) (The World Bank, 2016b, p. 1). Furthermore, like South Africa, levels of inequality in Brazil are also considered to be high. What is of interest is how Brazil has been successful at reducing inequality. In fact, the time series indicates that in 1994, Brazil had a higher level of inequality than South Africa. This highlights how, in terms of inequality, the countries are heading in opposite directions.

Figure 1. GINI Index (1994-2019) for Brazil, Russia, India, China, and South Africa (BRICS) with Trendlines



Source: World Bank, 2020 & Authors' calculations.

Brazil is selected because of its successes in reducing inequality, the link through BRICS and similarities it has with South Africa. Using Brazil as a paradigm, may give insights of how South Africa can use policies to reduce inequality. Reducing inequality is a strategic objective identified in the National Development Plan of South Africa (Republic of South Africa, 2012, p. 115). It is noted that there are additional similarities between South Africa and Brazil, such as their high levels of diversity, and abundant natural resources.

Sustainable Development Goal Selection

Improvements in education and cash transfers are cited by Hailu and Soares (2009, p. 1) as the leading policies attributed towards increasing equality in Brazil. The SDG (4) of *ensuring inclusive and equitable quality education and promote lifelong learning opportunities for all* (United Nations, 2015) has therefore been selected. This SDG follows MDG (2) *achieving universal primary education* (Perkins, Radelet, Lindauer, & Block, 2013, p. 47).

Education produces positive externalities for society; including increased capacity for: productivity (due to increased human capital), civic duty; furthermore, it facilitates distribution, creating a more equal society. Private benefits include increased productivity and therefore increased income (and capital accumulation) which reduces state dependency. Externality costs (and benefits) are internalised with large national budgets for education. Underlying this is that without equal access to education, existing inequalities are typically perpetuated (Cornwell, 2000, p. 160).

Overview of Brazil

The World Economic Forums 2014-2015 Global Competitiveness Report reports that net percentage enrolment for primary education in Brazil is 98.5% (Schwab, 2014, pp. 134-135); Brazil is considered to have successfully achieved the MDG of universal primary education. The greater objective of the Brazilian Education System, with over 56 million people enrolled in it, is "Education for All" (The Federative Republic of Brazil, 2014). In the following section, the key strategies adopted by Brazil are considered. These strategies provide an analytical framework for section "Key Strategies of South Africa", when South Africa is considered.

Key Strategies of Brazil

The key strategies adopted by Brazil included the creation of a legal framework, proper planning, financing, better resource utilisation, monitoring and evaluation of the system, policies, and inclusive participation and mobilisation of civil society (The Federative Republic of Brazil, 2014). In Appendix Table 1 is linking the targets of the SDG to each section.

Legal Framework and Planning

Education is a universal right in Brazil, with a compulsory nine-year primary education (Stanek, 2013, p. 2). Public education is free (The Federative Republic of Brazil, 1988). Brazil employs fiscal rules in order to achieve this. These rules stabilise the amount of money available for education. For example, the Constitution of Brazil communiqués that states and municipalities must invest at least 25% of tax revenue in education, and the Federal Administration must invest a minimum of 18% of tax revenue in education (de Castro, 2002, p. 7). The National Education Guidelines and Framework Law (LBD) standardised education across Brazil.

The Fund for the Development of Basic Education and Appreciation of the Teaching Profession (FUNDEB) is a Constitutional Amendment, aimed at ensuring that the Federal taxes are distributed based on the number of students in municipalities and states (The Federal Republic of Brazil, 2014, p. 69). FUNDEB reduces inequality and promotes social inclusivity amongst students.

Brazil's public administration is committed to social welfare programmes (Green, 2013). Specifically, *Bolsa Família (BF)* (introduced in 2002) targeting school attendance and *Fome Zero (FZ)* (introduced in 2003), tackling hunger and extreme poverty have lowered inequality in Brazil (Rapoza, 2013b).

Financing

Legislation dictates funding policies in Brazil. Between 2000 and 2009 there was a steady increase in the percentage of GDP invested in education (Kubacka, 2012, p. 1). Public expenditure as a percentage of GDP was 6.2% in 2015 (The

World Bank, 2020). Schooling has received a stronger budgetary focus – expanding 94% per pupil (Ferreira de Souza, 2012, p. 9).

In 2019, when facing fiscal constraints, budgets froze with regards to federally funded universities (Guerra, 2019). New grants and fellowships for masters and doctoral students were also suspended. The government also reduced funding for scientific. In other words, in a situation of limited resources, the trend of resource distribution favours and affirms the priority of primary education over higher education.

Resources

The National Foundation of Educational Development, budget increased from R$5.1 billion (2000) to R$49.5 billion (2013). It is independent to the Ministry of Education and manages the resources of federal education programmes such as the National Programmes for: textbooks; lunches in school; school transportation; further resources for school maintenance; and continuous education of school teachers (The Federative Republic of Brazil, 2014, p. 76).

Monitoring and Evaluation

Improved results lead to increased government subsidies (The Federative Republic of Brazil, 2014, p. 76), policies must compete for limited resources, and they are therefore evaluated and monitored for efficacy. Monitoring is an ongoing activity focused on collecting information. Evaluation facilitates comparisons and the identification of realistic and appropriate interventions. This provides policymakers with useful insights, and thus helps guide decision-making. This process leads to greater accountability in the system.

The National Assessment of Basic Education (SAEB) is used to access quality, equity and efficiency of teaching and learning (The Federative Republic of Brazil, 2014, p. 59). SAEB includes components to access levels of reading, writing and numeracy; evaluation of the results indicates improving average performances, in the early grades of primary education (The Federative Republic of Brazil, 2014, p. 59).

Participation and Mobilisation

The Ministry of Education enhances education by channelling the interests of Brazilian civil society through meetings and public debate (The Federative Republic of Brazil, 2014, pp. 77-79).

Policies and Programmes

Policies and programmes are actions implemented to achieve goals. The ultimate goal of any welfare programme is for its success to render it redundant (Wetzel, 2013). Various policies and programmes have been mentioned already; more are listed, detailed and analysed below. Programmes, such as BF and FZ are

implemented by the broader government, and are not strategies of the Ministry of Education.

Bolsa Família. BF led to almost universal admission to primary education (Patel, 2012). BF is a conditional cash transfer programme, for families with per-capita income below the poverty-line and is aimed at breaking the poverty cycle (Ferreira de Souza, 2012, p. 14) and increasing social inclusivity. The conditions *inter alia* are linked to school attendance, and health care factors significantly impacting school attendance. 12.8 million Families were on the programme in 2010 (Ferreira de Souza, 2012, p. 15).

Conditional cash transfers, decrease the opportunity cost of staying in school, therefore children forego leaving school to join the labour force. The cash transfers also create the incentive for families to ensure that their children remain in school.

Since BF's implementation, national attendance rates have risen (from an average of 77.7% (1995) to 91.4% (2009)) and illiteracy rates have fallen (from an average of 11.3% (1995) to 5.8% (2009)) (Ferreira de Souza, 2012, p. 9); the mean number of schooling years and all levels of educational attainment of the economically active population has increased (Ferreira de Souza, 2012, pp. 9-10).

Brasil Sem Miséria. The *Brasil Sem Miséria (BSM)* programme (introduced in 2011), is an extension of BF, and adds further benefits for poor families with children of pre-school age; helping to provide vocational training, micro-credit and jobs (Gomez, 2012).

Fome Zero. FZ is another conditional transfer programme, and its goals are to eradicate hunger and poverty. People living in poverty prioritise survival over education. Without nutrition; children cannot concentrate to learn at school. Hunger increases costs: due to increased incidence and severity of diseases and therefore leads to lower educational attainment (The Perryman Group, 2014, p. 1).

FZ predecessor *Bolsa Escola* significantly increased school attendance (Bourguignon, Ferreira, & Leite, 2002, p. 1) and therefore FZ is assumed to have improved education too.

Additional Policy Measures and Programmes.

Illiteracy. An additional fiscal rule is that, 30% of the minimum 18% of the Federal Administrations tax revenue is earmarked towards eradicating illiteracy and developing primary education (de Castro, 2002, p. 7). The literacy rate for people 15 years and older is 93.23% (United Nations, 2020a).

Infrastructure. Improved school infrastructure improves reading scores in Latin America (Duarte, Gargiulo, & Moreno, 2011, pp. 28-29). The number of Brazilian schools decreased from 2012 to 2014 (Arnold, Murakami, Bueno, & Araújo, 2015, p. 48). This led to a relative increase in demand for existing schools. However, the Brazilian government had a solution for this: With increased demand for schooling, the supply of classrooms, is inefficient, and has necessitated more daily shifts – to keep average number of hours spent in school stable and mitigate the impact on the quality of education (Arnold, Murakami, Bueno, & Araújo, 2015, p. 35).

Quality and Supply of Teachers. The number of Brazilian teachers at all levels has increased by 3.6%, between 2010 and 2013 (Organisation for Economic Co-operation and Development, 2016). To improve the quality of education, *Parfor* was implemented, to train teachers who are working without licentiate degrees (The Federative Republic of Brazil, 2014, p. 102).

Brazil has piloted performance-based pay for teachers and principals (Arnold, 2015, p. 36), with the aim of motivating staff; and in-service teacher training (Arnold, 2015, p. 36), which would improve the quality of teaching. The average salary for teachers in Brazil is $12 993 (PPP) (BusinessTech, 2018).

FUNDEF (Fund for Maintenance and Development of the Fundamental Education and Valorisation of Teaching) (introduced in 2006) allocates 60% of its resources to train lay teachers (De Mello & Hoppe, 2005, p. 4).

Early Childhood Development and Education. Early childhood education (ECE) has expanded by 37% though municipal policies (Arnold, Murakami, Bueno, & Araújo, 2015, pp. 35, 48). Long-term benefits of ECE include an increased likelihood of completing secondary school, and decreased likelihood of repeating grades (National Education Association, 2016).

Tertiary Education. Public institutions are state funded. Policies such as this have caused the number of students to double between 2002 and 2012 (Jackson, 2015). Private for-profit institutions also exist in the Brazilian system. These also contribute towards increases in the total number of students in the tertiary sector.

Scholarships. Institutional Programme of Teacher Initiation Scholarships provides scholarships to students pursuing careers as teachers (The Federative Republic of Brazil, 2014, p. 105). For example, the Scientific Mobility Program grants 100,000 scholarships to Brazilian students to study abroad (Stanek, 2013, p. 2).

Gender and Race Disparities. Without equal access to education, existing inequalities are perpetuated (Cornwell, 2000, p. 160). Educational attainment levels are higher for whites and females in Brazil; but the race and gender gap narrowed from 5.6% in 1993 to 2.5% in 2003 (Souza, 2005, p. 18). Education further reduces gender disparities in Brazilian employment levels (Kubacke, 2012, p. 4). The Woman and Science Programme aims to achieve gender parity and equality in male-dominated fields (The Federative Republic of Brazil, 2014, p. 100). In terms of gender, enrolment in: primary education is marginally higher for males; secondary education is marginally higher for females; and tertiary is significantly higher for females (United Nations, 2020a).

Access to Technical, Vocational and Tertiary Education. LBD allowed for the integration of vocational education, special and indigenous education, into the national education structure (Stanek, 2013, p. 2). *Pronatec* (National Programme of Access to Technical Learning and Employment) (launched in 2011) aims to create 200 new schools and generate eight million opportunities for professional

training (Pereira, 2013); and provides technical skills and increases the employability of individuals.

Knowledge and Skills Needed to Promote Sustainable Development. The years 2005 to 2014 was the UN Decade of Education for Sustainable Development. The United Nations created the Education for Sustainable Development (ESD) Section to run the programme globally and in Brazil (United Nations, 2016).

The US-Brazil Sustainability Consortium (USBSC) is an international exchange of students, educating students on the triple bottom line of sustainability – environmental responsibility, social justice and economic vitality (Motloch & Casagrande, 2010, p. 1). Brazil therefore through various avenues does promote the knowledge and skills needed for sustainable development. Brazil's teaching and learning system endorses behaviours that are sustainable.

Wider Benefits Derived from Education Policies

During the years 1995 to 2008, increased school attendance delayed young people's entrance to the labour market (therefore causing the labour market to tighten) – causing Brazilian unemployment to fall (Rapoza, 2013a). Decreased unemployment has positive externalities for society. Brazil achieved this drop through educational policies (De Holanda Barbosa Filho, 2011, p. 16). The unemployment drop did not favour any particular demographic (De Holanda Barbosa Filho, 2011, p. 16).

Education produces positive externalities for society (Black, Calitz, & Steenekamp, 2015, p. 151); including increased capacity for: productivity (and therefore increased income and capital accumulation) and civic duty; furthermore, it facilitates distribution, creating a more equal society and reduced state dependency. Education is therefore, a social investment. Policies promoting education are advancing Brazilian economic development and social inclusivity.

Further Plans

Brazil is currently working towards improving the quality and outcomes of the education system (The World Bank, 2016a). Even more developed nations have noted their success. Future goals include achieving enrolment rates of 85% for secondary education, and 33% for university (Commonwealth of Australia, 2016). The National Plan for Education 2014-2024 commits to increasing investment in education to 7% of GDP by 2018 and 10% by 2020 (Commonwealth of Australia, 2016).

Conclusions Concerning Brazil

Education moves the country forward in terms of building equality. Brazil follows a comprehensive approach addressing each aspect of the SDG. This is summarised in the Appendix. Policy designers in Brazil operate as if they are trying to maximise equality. For instance, even when facing constraints,

policymakers are mindful on the manner in which they cut spending. Policies that decrease inequality are typically given preference over other policies.

Key Strategies of South Africa

In this section, the comparable key strategies applied by Brazil are identified for South Africa. This is done in order to identify where policies in the two countries diverge. These differences could perhaps explain why education policies are successful at reducing inequality in Brazil. In other words, they could suggest what South Africa is not doing right.

Overview

The World Economic Forums of 2014-2015 Global Competitiveness Report reports that net percentage enrolment for primary education in South Africa is 85.0% (Schwab, 2014, p. 341). The same report states that an inadequately educated workforce is the second most problematic factor for doing business (Schwab, 2014, p. 340). As a percentage of GDP, SA spends more than other BRICS nations on education, but ranks below its peers in terms of overall quality of the education system. This is further highlighted by the extent of staff training: implying that education does not prepare South Africans to participate in the economy.

In terms of enrolment, South Africa has also achieved the MDG of universal primary education. In the following subsections we draw comparisons between Brazil and South Africa consider the same framework of key strategies identified as being the source of Brazil's success in reducing inequality through education.

Legal Framework and Planning

The South African constitution lists basic education as a fundamental right for everyone (Republic of South Africa, 1996). However, the South African education system is characterised by high-costs and low performance. Therefore, the full realisation of a child's right to a basic education is not satisfactorily adhered to in terms of the constitution (Chürr, 2015, p. 2442).

Financing

Like Brazil, legislation dictates funding policies in South Africa. South Africa spends almost 20% of its national budget on education (our economic peer China only spends 15% (Lin, 2014, p. 35). Most of the education budget is spent on basic education.

Public expenditure as a percentage of GDP between 2000 and 2018 averages 5.32% (The Global Economy, Author's calculations, 2020). The United Nations (2019, p. 2) however notes that the basic education is stagnant or decreasing. Over the medium term, allocations towards tertiary education are growing at a more

rapid rate (Republic of South Africa, 2020, p. 55). The concern with increased spending toward tertiary education is that tertiary education increases inequality. This is in stark contrast relative to health care, another social expenditure which has steadily increased.

Resources

To prioritise expenditure to the poorest people, government separated all public schools into quintiles – where the three lowest quintiles are no-fee schools. The lowest quintiles are typically also part of feeding schemes. Government directs more spending towards these schools. Some public schools, in quintile 5, charge high fees and are in a sense semi-privatised; where the school-governing-body (SGB) often employs additional staff, and provides better facilities. SGBs also improve performance of schools by utilising the community's expertise. In South Africa the expertise are functions of wealth. The system creates and perpetuates inequalities among schools. Typically, urban regions have more and better schools than rural regions. Additionally, due to low proximity to schools and lack of competing modes of transport, transport costs are greater in rural areas.

Monitoring and Evaluation

The South African Department of Basic Education (DBE) commissioned national surveys in 2011/2012 and 2017/2018 to measure public ordinary schools' progress towards achieving the key goals. The surveys dealt with the progress made in terms of service delivery, and identify areas needing further support. This monitoring and evaluation essentially allows government to step into the role that SGBs play at wealthier schools. The main findings are that there is an increasing trend of centralisation of school management practices. In general, the situation is improving in terms of up skilling teachers, and improving service delivery and school infrastructure, albeit at a slow pace.

Participation and Mobilisation

As mentioned in other sections, civil society is involved with education in South Africa. This participation is however more prevalent at wealthier schools, which highlights the dualistic nature of the school system. The lack of resources at poorer schools, results in many instances of civil action where parents have resorted to protesting at schools.

Policies and Programmes

South Africa does cash transfers, in contrast to Brazil, these are unconditional. Since the end of apartheid, coverage has increasingly expanded and currently covers over a quarter of the total population. The unconditional nature is assumed to be due to the scale of transfers. Finally, the cost associated with imposition of

behavioural conditions is likely to be high in the South African context (Woolard and Leibrandt, 2010, p. 28).

Similar to FZ, the national school nutrition programme grant aims to improve the nutrition of poor school children, enhance their capacity to learn and increase their attendance at school (Republic of South Africa, 2020, p. 28). This intervention is targeted at the poorest quintiles of schools, and budget allocations generally grow at rates above inflation.

Additional Policy Measures and Programmes

In this section, further policies aimed at the achievement of the SDG are considered.

Illiteracy. The total literacy rate for people 15 years and older in South Africa is 87% (United Nations, 2020b). However, 78% of South African children in grade 3 cannot read for meaning (Davids, 2019). This is attributed to the initial emphasis on learning in a mother tongue (not English for the majority) and then only switching to English in grade 4. In a sense, this means many pupils start their education journey on the back foot. This situation is further exacerbated by a lack of reading resources in poorer schools and communities; this means a culture of reading is not developed. Richer communities have reading resources, and this is evident in the fact that most of the learners in the wealthiest schools are "advanced" in their literacy (Farber, 2017).

Infrastructure. The Minister for Basic Education has published legally binding Norms and Standards for School Infrastructure. Without adequate infrastructure (along with teachers, books and stationery) learners are unable to receive quality education. Over the medium term, the 2020 National Budget targets infrastructure backlogs to replace unsafe and inappropriate school structures as well as to provide water, and sanitation. The poorest schools (quintiles 1, 2 and 3) are reliant on the government to provide this infrastructure, whereas quintile 5 schools can make their own provisions. Finally, repeating students contribute toward excess enrolments, and this necessitates additional facilities.

Quality and Supply of Teachers. The education school children receive is based on the educational thinking and practice their teachers received. Current policies regarding the quality and supply of teachers are aligned to the SDG. This has been uneven and inconsistent historically, due to Apartheid's Christian Nationalist Education and Bantu Education, sporadic workshops (on curriculum changes), shortened school days and a breakdown of teaching and learning in historically disadvantaged schools (Modisaotsile, 2012). Research conducted on the efficacy of continued professional development workshops has highlighted that teachers from low quintile schools are more likely to be redeployed than those from higher quintile schools. This results in learners from schools in better socio-economic areas benefiting from upskilling. This also means that inequalities in terms of quality of teachers prevails (De Villiers, 2016).

In determining the learning outcomes of pupils, teacher quality and supply is important. However, the quality in South Africa is not adequate. Regarding the quality, tests on grade 6 mathematics teachers reveal that many South African teachers "have below-basic levels of content knowledge, with high proportions of teachers being unable to answer questions aimed at their pupils" (Spaull, 2013, p. 5). The same tests reveal that teachers at higher quintiles achieve superior results. In fact, the ruling political party's 2019 election manifesto's key point regarding education focused on improving the quality of education (Ramaphosa, 2019). Therefore, quality of teachers should be on the radar of policymakers.

Moreover, several factors affect the supply of teachers in South Africa. Overcrowded classrooms and low salaries lead to poor teacher motivation. Teachers are frequently absent due to extra jobs (in order to supplement their income) (Cornwell, 2000, p. 165). Ijumba (2011) says absenteeism and mortality, due to HIV/AIDS, disrupts the teaching programme and affects both the supply and demand of education.

The average salary for teachers in South Africa is $30 921 (PPP) (BusinessTech, 2018). Teacher salaries comprise approximately 80% of the education budget (Republic of South Africa, 2019). In other words, the budget is allocated towards addressing supply.

Early Childhood Development and Education. As of 2020, Early Childhood Education (ECE) falls under the ambit of the Department of Social Development, not the Department of Basic Education, in South Africa. Fundamentally, this implies that the first rung in the education ladder is misplaced. Thus, there is a disconnect in the system. Opportunities and access for ECE are typically less available to children from poorer backgrounds in South Africa. This leads to a situation where children are not effectively prepared for school entry. This educational deficit limits future educational attainment. Social inequities mean that wealthier families can of course access quality ECE. The latest policy proposals do aim to address this issue.

Tertiary Education. In recent years, higher education has received a greater share of the education budget, as compared to basic education. As mentioned before, the budget allocation for basic education has remained stagnant. A subsidy for higher levels of education cost more, and typically redistributes income towards the rich. In other words, perpetuating and causing inequality.

Scholarships. To promote teaching as a profession, the South African government has the Funza Lushaka Bursary Programme. This is a conditional bursary. Recipients are required to teach at a public school for an equal number of years for which they received the bursary. The bursary is administered by the National Student Financial Aid Scheme (NSFAS). NSFAS aims to be "an efficient and effective provider of financial aid to students from poor and working class families in a sustainable manner that promotes access to, and success in, higher and further education and training, in pursuit of South Africa's national and human resource

development goals" (National Student Financial Aid Scheme, 2020). This organisation provides funding for tertiary education in South Africa.

Gender and Race Disparities. Due to the socio-economic history in South Africa, race is a proxy for income and wealth. As we have alluded to in previous sections, income is a major determinant of quality and quantity of education in South Africa. There are thus racial disparities. However, spending patterns are aimed at addressing this. More public resources are allocated towards poorer pupils. Notwithstanding this, the total amount pales in comparison to private resources. In terms of gender, enrolment in primary education is marginally higher for males, while secondary education is marginally higher for females; and tertiary is significantly higher for females (United Nations, 2020b). Various public universities employ redress policies in order to increase access to disadvantaged people.

Access to Technical Vocational and Tertiary Education (Tvet). TVET colleges aim to improve work opportunities by providing knowledge and skills for employment. To this aim, there are 50 TVET Colleges, with over a million students, in South Africa, and these are subsided by the state. These colleges fall under the ambit of the Department of Higher Education and Training. There are plans to increase the number of these colleges and the total enrolment in these colleges.

Knowledge and Skills Needed to Promote Sustainable Development. As a member of the United Nations, South Africa has adopted the Sustainable Development (SDG) Goal. The wording "ensure inclusive and equitable quality education and promote lifelong learning opportunities for all" is embedded in the text of the basic education and further education and training school curriculum documents (DoE, 2010; DoE, 2011).

The goal can also be found in the South African Qualifications Authority (SAQA), graduate attributes which influence tertiary education curricula. These attributes focus on the employability of graduates and are influenced by four broad interrelated components. These are: (1) skilful practices (communication skills, time management; self-management and resource management, problem-solving and lifelong learning); (2) deep understanding rooted in a discipline (specialised expertise in a field of knowledge); (3) realistic understanding about personal identity and self-worth and; (4) metacognition (self-awareness and the capacity for reflection) (Yorke & Knight, 2006, p. 5, as cited by Griesel & Parker, 2009, p. 5).

The wording of these attributes imply *inter alia* that graduates need to be employable, be able to create employment opportunities and be lifelong learners. To be a lifelong learner implies that graduates need to be able to adapt to changing conditions in the job market. To accommodate this, courses at South African universities are modularised.

Conclusions Concerning South Africa

Education moves the country forward in terms of building equality. South Africa like Brazil follows a comprehensive approach addressing each aspect of the SDG. This is summarised in the Appendix. Policy designers in South Africa aim

to maximise education, without being mindful of the consequences of these actions. It is the unintended consequences of these policies that contribute towards perpetuating inequality in South Africa.

Concluding Remarks and Policy Recommendations

The aim of this article is to compare the policies of Brazil and South Africa in terms of the possibility of achieving the goals of sustainable development. To this end, we reviewed and compared the education policies in context of SDG 4, concerning quality education within these two similar countries. This comparison enabled us to characterise how there has been a divergence in the GINI coefficient between these countries even though they are pursuing an identical goal. The findings of the comparative analysis, between two BRICS countries, with histories of inequality and unequal education opportunities, has revealed several findings, which are presented, following.

Education contributes to economic development. To this end, both countries apply policy measures. Post-1994, as measured by the GINI coefficient, Brazil is more successful than South Africa. Addressing the challenges facing educational attainment will enable South Africa to reap the benefits of a more educated society. Regarding education expenditure in South Africa, although high compared to peer countries, the return on investment does not fully equate and falls short of the promised economic returns.

One of the main challenges that South Africa has, is not so much of identifying issues; it is in finding and enacting solutions to issues as well as ensuring accountability. In contrast, Brazil was more successful in finding solutions that led to desired outcomes.

While South Africa has legislation and funding that seeks to improve education, it falls short on many fronts. In South Africa, the literacy rate is lower than that of Brazil. Teacher training does not lead to improved learning and teaching because teachers are redeployed. There is no monetary incentive for principals and teachers to ensure that expertise is retained. If skilled teachers could be retained the content knowledge gap between quintile 1 and 5 schools could be decreased.

In terms of average salaries (in PPP terms) South African teachers earn more than double what Brazilian teachers earn. This is consistent with the notion that South Africa does devote resources to education. Perhaps it is not a question of sufficiency, but rather efficiency – how and for what resources are allocated that is not optimal. In Brazil, they have performance-based pay models, for both principals and teachers. This incentivises them to be accountable and to ensure that policy objectives are met.

In South Africa, the historical disparities of the past have not been adequately addressed, so that there are huge differences among quintile 1, 2 3 and quintile 4 and 5 schools. We in fact have two different public schooling systems. The lack of accountability due to a lack of monitoring and evaluation has also contributed to unequal schooling and an unequal society. The inequalities of educational

opportunities in South Africa are both a symptom and cause of economic inequalities prevalent in South African society. What exacerbates matters is that the current design of this system coupled with some well-meaning education policies perpetuates inequalities. It is noted that spending patterns are based on context. However, spending should be effected in a sustainable way, specifically for education, but also with the underlying mandate of reducing inequality.

In contrast to South Africa, Brazil is on course to achieve the SDG of *ensuring inclusive and equitable quality education and promote lifelong learning opportunities for all*. Brazil has achieved the previous MDG of universal primary education. The key strategies of this success were through a legal framework, good planning, financing, and better use of resources, with monitoring and evaluation, and inclusive participation and mobilisation of civil society. These clearly provide insights as to how an effective government administration can reduce inequality, advance economic development and social inclusivity through policies and programmes for education.

The Brazilian government's social investment policies have been successful at reducing inequality and improving human development. The South African education system could learn lessons from Brazil. The South African government can strategically intervene with the knowledge that better education will increase employment, increase productivity, improve living standards and decrease inequality.

Further examples indicate that, in terms of financing education, Brazil sets up separate funds for teacher development in order to avoid encroaching on funds for pupil. South Africa draws money from the same proverbial pot. Moreover, the subtle differences of making cash transfers conditional in Brazil mean that certain behaviours are incentivised. In other words, incentives align the interests of people with that of the government. An example is where infrastructure constraints in Brazil, led to more efficient utilisation of resources, whereas in South Africa, the answer was to build more resources, which in turn require maintenance. However, the backlog in South Africa is so large that this leaves some learners with infrastructure and others without.

To address inequality in the South African context, it is important that policies are aimed at promoting equal and universal access. This access can potentially lead to reductions in inequality. Perhaps the key finding of this study is that education policies contribute to inequality in South Africa, whereas education policies contribute to equality in Brazil. In other words, the South African system is on a path of perpetuating inequality.

This study sought to discover why there is a divergence in the trends of inequality between South Africa and Brazil. This study provides an outline of the education policy and suggests how South Africa can reduce inequality through the strategic lever of education. Future research can examine which interventions and strategies will have the most impact to structurally change education policy. Ultimately the lesson learned is that well-meaning policies can have unintended consequences.

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Appendix

Table 1. Sustainable Development Goals Checklist

	Sustainable Development targets	Section(s)	
		Brazil	South Africa
4.1	By 2030, ensure that all girls and boys complete free, equitable and quality primary and secondary education leading to relevant and effective learning outcomes	2.4.1	3.1.1
4.2	By 2030, ensure that all girls and boys have access to quality early childhood development, care and pre-primary education so that they are ready for primary education	2.4.6.2 2.4.6.4.4	3.1.6 3.1.7.4
4.3	By 2030, ensure equal access for all women and men to affordable and quality technical, vocational and tertiary education, including university	2.4.6.4.5 2.4.6.4.6 2.4.6.4.7	3.1.7.5 3.1.7.6 3.1.7.7
4.4	By 2030, substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship	2.4.6.4.8 2.5	3.1.7.7
4.5	By 2030, eliminate gender disparities in education and ensure equal access to all levels of education and vocational training for the vulnerable, including persons with disabilities, indigenous peoples and children in vulnerable situations	2.4.6.2 2.4.6.4.4	3.1.7.6
4.6	By 2030, ensure that all youth and a substantial proportion of adults, both men and women, achieve literacy and numeracy	2.4.6.4.1 2.4.4	3.1.7.1
4.7	By 2030, ensure that all learners acquire the knowledge and skills needed to promote sustainable development, including, among others, through education for sustainable development and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship and appreciation of cultural diversity and of culture's contribution to sustainable development	2.4.6.4.9	3.1.7.6 3.1.7.9
4a	Build and upgrade education facilities that are child, disability and gender sensitive and provide safe, non-violent, inclusive and effective learning environments for all	2.4.6.4.2	3.1.7.2
4b	By 2020, substantially expand globally the number of scholarships available to developing countries, in particular least developed countries, small island developing states and African countries, for enrolment in higher education, including vocational training and information and communications technology, technical, engineering and scientific programmes, in developed countries and other developing countries	2.4.6.4.6	3.1.7.5
4c	By 2030, substantially increase the supply of qualified teachers, including through international cooperation for teacher training in developing countries, especially least developed countries and small island developing states	2.4.6.4.3 2.4.6.4.6	3.1.7.5 3.1.7.3

Source: United Nations, 2015.

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Addressing Teacher Retention within the First Three to Five Years of Employment

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Teachers' perceptions of long-term career success are largely related to the levels of support they receive early on in their careers. This study on teacher retention and the factors that influence teacher choice to remain in the field after the first five years of employment, examined three schools of varying demographics and socioeconomic status in a large public school district in Central Florida. Participants interviewed were in the first three to five years of their teaching career. Information derived from each interview was used to determine trends and factors that influence teacher retention and attrition. The main finding was that when teachers feel supported through professional development, time for collaboration with colleagues, and autonomy, they are more likely to remain in the teaching profession.

Keywords: teacher retention, elementary schools, teacher recruitment, principal leadership, organizational systems in schools

Introduction

A common trend in schools within is teacher attrition. Teachers often leave the field within their first three to five years in the field due to increasing demands, lack of support and professional development, and unrealistic expectations from their principals. This contributes to a constant cycle of recruiting and hiring teachers on a yearly basis, which creates an additional stressor for school administrators at both the building and district level. Examining specific reasons why teachers leave and why teachers stay may reduce the need for the constant recruitment and retention of teachers locally, regionally, nationally, and internationally.

The purpose of this study was to investigate teacher retention within a large public school district and develop a clear understanding of actions needed to support teacher retention in the field. Additionally, the study serves as a resource to public school districts in planning for support of teachers within their first 3-5

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years in the classroom. Currently in the state of Florida, there is a high need for teachers across all subject areas, grade levels, and disciplines.

This research study explored ways in which the school district and its school-based administrators can increase teacher retention within their schools. Qualitative methodology was used to conduct interviews among ten participants and was based on the grounded theory framework. This data derived from the interviews was used to determine trends in participant responses. Each of the interviews was conducted in the participant's school classroom setting and were recorded and transcribed to determine emerging trends. After interviews concluded, data transcription was coded to determine trends in participant responses. Data was organized to determine themes that emerged from responses. Trend data was analyzed and used to determine trends in responses to overarching research questions.

Data were collected using researcher-formulated questions to evaluate three main aspects of school culture: (1) professional collaboration, (2) affiliative collegiality, and (3) self-determination/efficacy. Additional questions were incorporated into the instrumentation that targeted specific matters in reference to teacher retention. Lastly, anecdotal records from teacher interviews were used to determine trends related to teacher retention. Each of the interviews was coded and analyzed, and the data was sorted and organized to determine trends among participant responses. Common trends among each group of participants were analyzed to determine themes. The themes were then related back to applicable literature to support further investigation into the topic of teacher retention within the first three to five years in the field. Data collected among three different public elementary schools in Central Florida produced similar trends despite the varying demographics and socioeconomics of each elementary school.

Research Questions

1. What factors influence teacher retention in the field of education within the first 3-5 years of employment?
2. How can districts plan to support teachers beyond their third year in the field?
3. How does principal leadership, mentoring programs, and professional development play a role in teacher retention?

Literature Review

Teacher preparation programs heavily influence whether or not teachers will remain in the field beyond the first five years. Retaining teachers in the long-term benefits districts greatly by minimizing financial losses associated with teacher training (Watlington, Shockley, Guglilmino, & Felsher, 2010; Loeb & Miller, 2006; Zhang & Neller, 2016). Based in the literature, between 40% and 50% of teachers will leave the field prior to completing their fifth year (Zhang & Neller,

2016). Avoiding these financial burdens and supporting teachers with retention beyond the first five years connects back to the district supports which are normally provided to teachers early on in their careers. Districts across the globe are promoting distributive leadership practices as a means to retain teachers and enhance effective pedagogy. School improvement efforts that connect to the implementation of distributive leadership practices are showing promising results in connection with teacher retention (Ross, Lutfi, & Hope, 2016; Sulit & Davidson, 2020; Torrance, 2013).

Distributed and Shared Leadership

Shared leadership practices have shown to promote much success among retaining and growing highly effective teachers. Schools that implement a shared leadership approach with teachers have shown to increase student achievement as well as increase outcomes of teacher retention (Urick, 2020). The distributive leadership model promotes teacher autonomy and a level of capacity that motivates teachers through deliberate planning for principals to share leadership with teachers (Sulit & Davidson, 2020). The research has shown that distributive leadership may help to mitigate teacher attrition rates and save districts money on hiring (Sulit & Davidson, 2020). Based on interviews with teachers, Sulit and Davidson (2020) found that distributive leadership practices helped to increase a sense of connectedness among teachers and their colleagues. Distributive leadership creates a sense of endless possibilities for ensuring an organizational balance and flow between instructional staff and administration and confirm the notion that no single individual can effectively lead in the absence of collaboration. In today's most productive school environments, a distributive leadership model has shown great success through identifying teacher leaders and promotes a shared interest in the work that needs to be accomplished in the form of shared responsibility to increase student achievement (Sulit & Davidson, 2020).

Schools that promote distributive leadership practices are experiencing higher teacher retention rates due to increased teacher job satisfaction. The connection established between the principal and all members of the organization creates a system for improvement in which high levels of collaboration and value are given to all stakeholders (Arrowsmith, 2007; Sulit & Davidson, 2020).

Principal Leadership and Influence

A large influencer in the quest to retain teachers beyond three to five years is the perceptions teachers have of their school leadership (Sulit & Davidson, 2020). Teacher perception of their administration is a strong prediction of whether or not teachers will remain in the field (Arrowsmith, 2007). An overarching theme woven within the literature is the connection between supportive leadership, collaborative structures, resources, and environment. Each of these elements supersedes teacher need for higher pay (Allegretto & Mishel, 2016; Hanushek, 2007; Zhang & Neller, 2016).

Leadership success in connection with teacher retention is examined through the traits of the school leader. Principals that focused on an employee-centered approach rather than a product-oriented approach have shown positive results in retaining teachers. Leaders that involve teachers in the decision-making processes experience a greater sense of employee satisfaction that is evidenced though positive student achievement outcomes.

School leadership practices have an undeniable influence on teacher retention. Teachers that feel supported, have the resources they need, and an understanding of the reasoning behind school improvement efforts are more likely to experience feelings of satisfaction. Studies have determined that when teachers feel supported by their administration, they are likely to stay in the field (Urick, 2020). Principal influence on their staff is a primary indicator of whether or not teachers will commit to the profession in the long term. One proposed dilemma is that principals fail to acknowledge their very best teachers and motivate them to stay (Sawchuck, 2012). There is also research that focuses heavily on styles of leadership and the influence they have on teacher retention (Urick, 2020). Three specific attributes are used to describe effective school principals. They implement effective management practices and organization of the school, build teacher capacity, and have a knowledge of content and pedagogy. "The connection between teacher instructional practices and principal support on a day-to-day basis weighs heavily on teacher satisfaction and ultimate retention" (Urick, 2020, p. 4).

Retention and Hard to Staff Schools

Another aspect to examine is the teacher attrition rates in hard to staff schools. Teachers leave the field within their first three to five years for a variety of reasons. Some contributing factors to teacher attrition in lower performing schools are lack of principal capacity, weak organizational structures, student discipline, overwhelming district expectations, and insufficient salary structures (Holmes, Parker, & Gibson, 2019; Horng, 2005; Opfer, 2011). This is especially true in urban environments, which require dedicated and motivated teachers and administrators to lead.

High levels of organizational management are critical for teacher success and student outcomes (Holmes, Parker, & Gibson, 2019). There is an argument that if structures for organization in hard to staff schools are weak, all stakeholder groups are negatively impacted. Administrators that lead hard to staff schools and promote teacher goal setting, mentoring support, actionable feedback, recognition, and promoting collegiality have had a higher success rate at retaining teachers (Holmes, Parker, & Gibson, 2019). Additionally, culturally responsive teaching practices and professional development opportunities enable teachers to move away from traditional methods and support their students in a culturally rich environment (Burnham, 2020). Educational leaders that provide their teachers with the support and professional development needed to meet the needs of unique learners will experience higher teacher satisfaction rates and increases in student achievement.

Mentoring

Districts provide teachers with induction at the onset of their career through the first two to three years. Teacher attrition within the first five years is at its highest among teachers under thirty years of age (Butler, 2018). It takes new teachers three to seven years to become effective practitioners. Many teachers complete the mentoring and induction process through their districts, but still require additional differentiated support based on their level of expertise. Additional guidance and collaboration through the support of a veteran teacher has shown to increase teacher retention. To take it a step further, teaching experience is divided into three experience levels; early career stage, mid-career stage, and late career stage (Bressman, Winter, & Effron, 2018). The literature suggests that although each stage is a progression, each unique individual progresses toward effective practice at different levels. There are many benefits to providing continual support to educators beyond their early years. Teachers continue to develop their expertise at any stage; they feel the support of their colleagues in a safe environment, and they become more deliberate in their instructional planning and practice (Bressman, Winter, & Effron, 2018).

Increased demands and time constraints lead teachers to burnout and ultimately increased attrition rates. The research suggests that there is a strong connection between workload, time constraints, and teacher exhaustion due to high demands and unrealistic expectations. There is a clear connection between teachers leaving the field at higher rates to stress and burnout in the profession (Skaalvik & Skaalvik, 2017, p. 3). The strong association between deadlines and emotional exhaustion suggests that teachers are at risk for developing symptoms of burnout. It is important that school leaders develop a plan for instructional planning and delivery at school through collaborative means. In addition, leaders must effectively communicate to teachers that planning for instruction is critical but within reasonable demands (Skaalvik & Skaalvik, 2017, p. 7). The research states that teachers experience higher satisfaction rates and lower levels of burnout when given time to plan and collaborate with their peers.

Summary and Synopsis of Literature

Teacher retention has been an ongoing topic for debate over the last several decades. Specific factors, both internal and external, can contribute to teacher retention within the first three to five years. This study examines factors such as principal leadership, professional development, and mentoring programs and any potential connections to teacher retention and attrition. This study attempted to understand why teachers leave the teaching profession in the first three to five years and aims to make suggestions as to how to better retain teachers during this period.

According to Sulit and Davidson (2020), retention weighs heavily on the perceptions that teachers have of their supervisors' leadership practices and can have an impact on whether or not a teacher decides to remain in the field. Distributive leadership practices present an inclusive approach to leadership in a

way that is shared, creating and promoting a sense of shared responsibility between teachers and leaders, potentially leading to better school improvement outcomes. It can be assumed that because teacher retention issues seem to become a problem in the first three to five years (Hughes, 2012; Perrachione, Rosser, & Petersen, 2008; Rockoff, 2008; Zhang & Zeller, 2016), that the research conducted in this study will only further exemplify the connection between teacher support and retention.

Reitman and Karge (2019) argue that higher retention rates are directly connected with support in the early years in certain activities, such as training in lesson planning, cultural diversity and differentiated instruction. These trainings focused on by the authors were considered in service trainings that teachers receive early within the individuals' career as a dominant variable for decisions to stay in the field. Teachers that have received the training in these areas were more likely to remain in the field past the three to five year mark.

Lastly, this study examined the impact that effective mentoring programs have on teacher retention. Novice teachers that have the ability to work with and observe more experienced teachers through common planning and instructional rounds are likely to feel more satisfaction due to the collaborative working and learning environment (Shuls & Flores, 2020). This study seeks to uncover key information on how teachers within year's three to five feel that mentoring programs have affected their ability to persist in the profession.

Methodology

The teachers that participated in this study are within their first three to five years in the field and represent three different elementary schools with varying demographics in a large Central Florida school district. Each of the school settings differ in terms of socioeconomics, overall school performance, and demographics. One out of the three schools showed significant disparity in terms of socioeconomics. The other two schools illustrated in the study showed similar socioeconomic data. Each of the three schools have a high population of English Language learners. Additionally, all schools surveyed have a Hispanic population that is greater than sixty percent. The community and parent involvement at each of the schools varied based on the location. The teachers at each of the school sites are referred to throughout the research study as subjects A-J to preserve anonymity. The participants engaged in structured interviews and answered specific questions developed by the researcher prior to the start of data collection. Using grounded theory enabled participants to share perspectives on their personal experiences through a holistic lens. The qualitative data gathered throughout the study supports the generation of new ideas based on individual participant's responses. The responses gathered provided rich descriptions about each participant's perspectives on factors that influence teacher retention.

This study seeks to understand factors that influence teacher retention in the first three to five years. The three research questions listed in the previous section will guide the study through structured interviews to support findings and common

trends in the participant's answers. In order to collect sufficient qualitative data, the research methodology seeks to develop a deeper understanding of teacher attrition based on principal leadership, mentoring relationships, and professional development opportunities. Participants engage in structured interviews that induce specific information regarding teacher retention in relation to their current experiences and perspectives. This qualitative methodology guides the process of gaining a deeper understanding of participants' perspective on the topic. "The goal of grounded theory research is not to begin with a theory and then set out to collect data that proves it; the goal is to begin with a particular phenomenon in mind and permit those aspects that are relevant to the phenomenon to emerge during the study" (Mertler, 2021, p. 82).

The grounded theory approach seeks to answer the research questions by providing a naturalistic approach with interviews conducted in the subjects' familiar setting. "Grounded theory methods are suitable for studying individual processes, interpersonal relations, and reciprocal effects between individuals and larger social processes" (Charmaz, 1996, p. 28). The interviews conducted produced comparative data to analyze and develop further insight into factors that cause teachers to leave the field of education within the first three to five years; "these methods are useful for studying typical social psychological topics such as motivation, personal experience, emotions, identity, attraction, prejudice, and interpersonal co-operation and conflict" (Charmaz, 1996, p. 29).

Grounded theory is the most suitable framework for this study because participants have the ability to share specific perspectives in relation to each to the three research questions. The interview process aims to compile, code, and compare data based on each of the research questions. The interviews and associated questions lend themselves to analysis and synthesis of the data collected through the interview process. Further exploration of the questions and participant reflection provides a comparison to current theories that exist regarding teacher retention. Additionally, the study aims to enhance the understanding by comparing emerging themes among participants. Grounded theory provides a framework to collect and continually analyze the data; "Data are collected and analyzed, and a theory is proposed; more data are collected and analyzed, and the theory revised; data continue to be collected and analyzed, and the theory continues to be developed until a point of saturation is reached" (Mertler, 2021, p. 82).

The participants provide insight based on the research questions to gather information that provides holistic data. The grounded theory methodology does not seek to prove a current theory. "The term grounded theory reflects the way that the explanation or theory which emerges from the research is grounded or justified in the data collected" (Harris, 2014, p. 3). The goal for this study is to uncover the social and psychological factors that influence teachers to remain in the field beyond their third through fifth years. All schools and names of participants have been blinded with pseudonyms to protect the identity of both the schools and the teachers.

Justification of Methodology

Qualitative methodology selected for this study is appropriate because the purpose of the study is to gather holistic information derived from perspectives of participants. The data from the interviews were gathered and coded to determine common trends in responses to interview questions. While this study could have been examined using a mixed methods approach, utilizing both qualitative and quantitative data, or a quantitative approach tracking teachers from their initial year through their separation year, this methodology best fit the research questions because it provided new insights based on participant responses and unique perspectives. Table 1 provides school demographic and subgroup data, and Table 2 provides demographic information regarding the study participants.

Participants

Table 1. School Demographic and Subgroup Data

School	Enrollment	Hispanic	White	Black	Asian	Multiple	ESE	ELL	FRL
Somerset Elementary	1011	61.0%	22.5%	6.9%	7.2%	2.4%	12.0%	26.0%	38.0%
Edison Elementary	617	62.4%	16.7%	15.5%	1.8%	3.7%	14.0%	31.0%	60.0%
Highland Park Elementary	830	78.2%	4.3%	14.1%	2.0%	1.1%	15.7%	29.2%	99.4%

Table 2. Interview Participant Demographics: Elementary Teachers

School	Participant	Years of Experience	Gender	Race	Grade Taught
Somerset Elementary	A	5	Female	White	3
Somerset Elementary	B	3	Female	Hispanic	2
Somerset Elementary	C	5	Female	White	1
Somerset Elementary	D	4	Female	White	4
Edison Elementary	E	4	Female	Hispanic	ASD K-2
Edison Elementary	F	3	Female	White	5
Highland Park Elementary	G	4	Female	Hispanic	4
Highland Park Elementary	H	3	Female	White	3
Highland Park Elementary	I	3	Female	Multi	3
Highland Park Elementary	J	5	Female	White	3

Ten participants were chosen for this study across a Central Florida School District that were within the first three to five years of the teaching profession. The participants were referred to as a letter A-O throughout the study to preserve anonymity. This study examined three schools with varying demographics, and to protect the privacy of the schools and participants, the school names are not real. The school names used for the study are Somerset Elementary School, Edison Elementary School, and Highland Park Elementary. Each of the participants taught

at different elementary schools (kindergarten through fifth grade) with varying demographics and socioeconomic status across a large Central Florida School District. Participants were called to the study through the support of their current building level principals. Each school that participated designated a point of contact to support recruitment of participants for the study. Of the ten participants interviewed, five were Caucasian, four were Hispanic, and one was Multiracial. Three teachers interviewed were third grade teachers, three were fourth grade teachers, one teaches in a self-contained Autistic Spectrum Disorder classroom, one teaches first grade, one teaches second grade and one teaches fifth grade.

As indicated in Table 1, the demographics of the three schools are as follows; Somerset Elementary School (2019 data) has a school enrollment of 1011 students with 61% being Hispanic, 22.5% white, 6.9% Black, 7.2% Asian, and 2.4% multiple. Thirty eight percent (38%) of students receive free and reduced lunch (FRL), 26% of students being English Language Learners (ELL) and 12% of students receiving Exceptional Student Education services (ESE). Somerset Elementary has maintained a school grade of "A" from the Florida Department of Education every year since its opening in 2015.

Edison Elementary (2019 data) has a school enrollment of 617 with 62.4% Hispanic, 16.7% white, 15.5% black, 1.8% Asian, 3.7% multiple. Sixty percent (60%) of students receive free and reduced lunch (FRL), 31% of students being English Language Learners (ELL) and 14% of students receiving Exceptional Student Education services (ESE). Edison Elementary school has a school rating of "B" based on the Florida Department of Education for the 2019-2020 school year. Due to the lack of FSA data for the 2020-2021 school year, Edison Elementary is a corrective program school based on their school-wide 2020-2021 iReady data. As a corrective programs school, Edison Elementary receives additional supports from the curriculum and instruction department at the district.

Highland Park Elementary School has 830 students. The school demographics are 78.2 % Hispanic, 4.3% white, 14.1% black, 2% Asian, 1.1% multiple. Within these demographics, Highland Park Elementary has an ELL population of 29.2% and an ESE population of 15.7%. The school has a free and reduced lunch rate of 99.4% and all students receive free meals. Highland Park has been under district supervision and received a "C" school grade for the 2019-2020 school year.

Procedures

Participants met with the interviewer for a thirty-minute session. Interviews were conducted face-to-face, and also through telecommunication means (Zoom, Skype, FaceTime, due to COVID-19). During the session, participants answered ten questions (See Appendix A). Each participant interview was recorded, and the recordings were transcribed and coded to determine trends in data. After codes were established and trends emerged, data were organized in a way to determine commonalities among answers of the participants. Common themes in answers helped to drive the organization of data collected. After data were analyzed, information was synthesized to create a picture that supports strong evidence that ties directly to the related literature.

Results

Research Question 1: What factors influence teacher retention in the field of education within the first 3-5 years of employment?

Qualitative interviews conducted began with questions to gauge the factors that influenced participants to become teachers. The first question focused on factors that influenced participants to become teachers. Out of (*n* = 10*)* participants, four shared that teaching was a second career, three participants were influenced by family members that maintained long term careers in education, two participants were influenced by a childhood teacher, and one shared that they always wanted to be a teacher ever since they were a young child. Participants shared that each day when they travel to work, they look forward to three very specific occurrences. All participants shared that they look forward to seeing their students and planning for an engaging day of learning. Teacher H from Somerset Elementary shared that, "I look forward to two things on my way to work. I definitely look forward to seeing my students and just seeing them every single day; that is the main reason. I also love my job and how I get to interact with my colleagues and peers." Additionally, six participants shared that they look forward to seeing their colleagues. Teacher H further stated, "A big second factor is my co-workers. They play a huge role in the work environment so when you work with really great people, it makes work a lot easier to come to." Farber (2011) states that teachers need time to collaborate, problem solve, and share successes on a regular basis. Teacher E from Somerset Elementary elaborated on this point; "I've got a good set of friends here at Somerset Elementary that are really like my support system, so having then day in and day out and coming to work knowing I've got them is huge for me." The research and interviews by participants suggest that creating a collaborative environment and a welcoming school culture may positively affect long-term teacher retention.

The topic of principal leadership produced multiple layers of responses from participants. Participant E, an Autistic Spectrum Disorder teacher in a self-contained classroom from Somerset Elementary school shared that, "Administration could support me more. I mean, there is a lack of support for ESE teachers. I noticed that I received more support when I was a Kindergarten teacher. I mean, I've got a lot of kids, and not enough hands in my classroom." Participant F from Highland Park elementary shared that, "So far this year I have been really appreciative of my administration. To assist me better, I would say to have a once a month check in to see if anything could be improved upon." The principal's influence on their staff is a primary indicator of whether or not teachers will commit to the profession in the long term (Sawchuck, 2012). The research suggests that principal influence is a defining factor in teacher retention and enhanced levels of support for high needs classrooms may indicate greater retention in hard to staff classrooms and schools.

Qualitative interviews conducted regarding factors that influence teacher retention, showed student behavior as an influencing factor. Four participants shared that, "Behaviors in the classroom and the lack of support have contributed to daily challenges." Urick (2020) states, "School administrators and their leadership

practices have an undeniable influence on teacher retention. Teachers that feel supported, have the resources they need, and an understanding of the reasoning behind school improvement efforts are more likely to experience feelings of satisfaction." This finding may produce some evidence that leadership support through effective school structures and systems may increase teacher satisfaction.

Another important aspect to note as a trend among interviewees was the additional planning time provided by the district through ESSER (Elementary and Secondary School Emergency Relief) funding due to the COVID-19 pandemic. Teacher B from Highland Park Elementary shared, "They gave us additional planning days this year and every month we get the chance to sit down with our team and instructional coach to plan. During these planning days we are able to develop lessons for the next four to six weeks. These planning days helped me a whole lot." This finding may suggest that when additional planning time is provided for teachers, it could increase teacher satisfaction by providing time to complete required tasks. This is an important factor to highlight as Bankston (2019) states, "Often, this work is done in isolation, leading teachers to feel they are on their own when facing instructional challenges. School leaders can avoid this pitfall by building opportunities for collaboration into the staff meeting and professional development schedule. Teachers grow both in confidence and in skill when they are given the time to collaborate with their colleagues who teach the same content or students."

> **Research Question 2**: How can districts plan to support teachers beyond their third year in the field?

Qualitative data collection from ten participant interviews *(n =10)* explored a variety of ways districts can plan to support teachers beyond their fifth year in the field. Three participants shared that they had been in a different school each year in the current school district. Teacher F from Highland Park Elementary shared that, "So far my biggest challenge has been going to a new school every year. I was unfortunately at the bottom of the totem pole and I wasn't re-appointed my first two years. Having to switch to a new school each year has been physically and mentally exhausting. The strain mentally of not knowing if you will have a job and having to get acquainted with a new staff year after year is challenging." This evidence may indicate that districts could examine other means for recalculation of instructional positions (i.e., evaluation versus seniority).

Two teachers shared that their instructional coaches had an impact on their progress as developing professionals. Teacher A from Edison Elementary shared, "I always appreciated the professional development support that I was offered as a new teacher. Our instructional coach was so helpful and would provide support by asking what I wanted to work on. She would offer to observe while I implemented strategies during a lesson." Sulit and Davidson (2020) suggests that distributive leadership practices may support teacher retention. Distributive leadership suggests that there is deliberate planning for sharing leadership that is communicated from the top down. "In the distributive leadership environment, teacher relationships, opportunities for decision-making, and support from colleagues are typical. This may increase teachers' organizational commitment and encourage them to remain

in the classroom" (Sulit & Davidson, 2020, p. 9). This evidence may suggest that the distributed leadership approach could be a model that districts use to support building level principals in building capacity in their instructional staff.

Participants shared insight into individual growth plans and district procedures. Eight participants shared that the evaluation system met their professional learning needs where one felt that the evaluation system was a mere formality. When asked about feedback on evaluations, teachers shared that, they appreciated feedback to help improve their instructional practice. Teacher D from Highland Park Elementary shared that, "If I am not applying on a specific element, I receive feedback to help improve my practice. This helps me tremendously, as I am always learning." Teacher A from Somerset Elementary shared, "I've really enjoyed getting feedback on learning how to implement new strategies to help my students and to help improve my practice." When asked about professional growth plans, the forty percent of teachers shared that they did not feel it was beneficial. Teacher F from Edison Elementary shared, "I don't think it's beneficial. I get stressed out on whether or not I am going to implement the strategies incorrectly. It's hard to pick an element to focus on at the beginning of the year since you are just learning about your students." These interviews may provide some insight into the effectiveness of the overall evaluation system and its unique components (individual growth plans and the value participants found in each). This information may support districts in examining the current teacher evaluation systems to support school-based administrators in rolling out professional growth plans to teachers.

Overall, all of the participants agreed that district providing support through additional planning days proved to be extremely beneficial. Participants were asked about how their leadership could support them in balancing instruction with required compliance items. Teacher B from Edison Elementary shared that, "The district gave us additional planning days, this was extremely helpful. We were able to work with our coaches on lesson planning as well as complete required paperwork and accommodation logs." Teacher F from Highland Park Elementary shared that, "With the district providing the planning days, I think there are 5 this year, this really helped with planning and preparing materials needed for instruction. We meet three times a week and a lot of our time is taken for these kinds of things." The responses from participants may suggest that additional planning days for teachers may increase satisfaction by providing additional time to support the planning process.

> **Research Question 3**: How does principal leadership, mentoring programs, and professional development play a role in teacher retention?

There is evidence that suggests that principal leadership is a key factor in the retention of teachers beyond their fifth year. "Several studies have found that strong principal leadership can promote teacher retention even in contexts where student and teacher characteristics predict that turnover is likely" (Player, Youngs, Perrone, & Grogan, 2017, p. 331). When participants were asked about professional development and mentoring programs, three participants shared that they needed

additional mentoring in their third year of teaching. Teacher J from Edison Elementary shared, "By year three, the district does not offer mentoring support so it is up to the school. I felt I needed more support from a direct mentor even though technically I was not eligible at that point." This response leads the researchers to believe that teachers may need additional support by year three and beyond. Teacher attrition is a challenge in the education profession and is the highest among public school teachers with 3–5 years in the field (Phillips, 2015).

Thus, the purpose of mentoring is not only to pair an experienced teacher with a novice teacher for professional support but for necessary emotional support as well (Butler, 2018, p. 13). The research suggests that teachers may need additional support beyond their third year in the classroom, and this factor could determine long-term success in the field.

Participants shared that professional development was often district driven. Teacher E from Somerset Elementary pointed out that professional development, "was not really offered" outside of the district initiatives, and also felt that leadership did not really understand the need for additional trainings in areas of teacher interest. "I wanted to grow, not that my principal wouldn't want that, but did not send me to trainings more specific to my area. In a sense, I didn't feel supported." This response may suggest that professional development opportunities based on teacher interest could have an impact on overall teacher satisfaction and retention. According to Urick (2020), principals who prioritize the needs of their teachers and staff are more likely to retain their teachers. This information supports the finding and may provide some insight into how principals can connect the needs of their teachers back to the school's needs to determine the best avenues for continued support.

Conclusions

Some conclusions derived from question one are that teachers have left other career paths in search of a more profound and rewarding career. Several of the participants are second career teachers and decided to pursue a career in education to help make an impact in the lives of children. Each participant shared that they look forward to seeing their children each day as they travel to work. Additionally, participants shared and are excited to engage students in productive work to help them succeed. Participants shared that the levels of support for ESE, ELL and students with behavioral needs was an area that was a challenge for them. In addition, participants shared that they often did not have time to complete compliance tasks. Lastly, participant responses shared a common trend that focusing on necessary and relevant school/ district initiatives would increase the overall satisfaction.

An important point to note was how new teachers can be empowered by their administration to collaborate and bring a new perspective. Several participants shared the importance of working on a team where administration and veteran teachers can recognize the important contributions of the novice teacher. Most of the participants shared that they see themselves in education as a teacher in the

classroom for the long haul, while other participants shared that they have interest in aspiring to leadership positions. One participant shared that she did not see herself in education for the long term. Some conclusions derived from these interviews are that about fifty percent of participants are likely to remain in the classroom while the other fifty percent are likely to pursue other avenues; in the field of education or not.

When examining the study, some of the emerging trends and conclusions centered teacher satisfaction on levels of school-based supports teachers receive. Two teachers shared that they wanted to be a teacher since they were very young, three teachers interviewed shared that they were influenced by educators within their families, and five teachers shared that they got into education as a second career. The research question was crafted to determine factors that influence teacher retention. Two common trends that were shared among most participants was the anticipation of seeing students and co-workers each day. Interview question one focused on what teachers look forward to each day when they come to work. Of the ten participants, nine of the teachers answered quickly with the response of their students. Participants shared that regardless of all the responsibilities they carried out daily, their students were the influencing factor for their remaining in their positions. Three of the teachers interviewed followed up with the levels of support that they received from colleagues as something they look forward to each day. Interview questions three though seven focused on how districts and building level principals can support teachers beyond the third year. Some responses that were seen as common trends centered on levels of support provided to teachers with student behaviors in the classroom. Participants shared that the need for additional support with student behaviors created challenges in the day-to-day operations of their classrooms. One conclusion that can be drawn from this data was the need for additional professional development in classroom management. Another important factor that was noted in the interviews was support for alternate route teachers in teaching English language learners and Exceptional Education students. Teacher B from Highland Park Elementary shared that, "Almost 85% of our students are Spanish or of Latin background, so I feel as a school that we need more ESOL support." As districts continue to onboard new teachers that are on alternate certification routes, consideration for the levels of support needed in classrooms is a factor for building level principals to consider.

When considering these factors, the larger picture may present specific state and national implications, "If the supply of highly qualified teachers were plentiful, we might feel no need to worry about turnover, even if it is high and costly. That is not the case currently. In most states, newspaper headlines and supporting data about the effects of shortages—especially in the fields of math and science, special education, and teachers of English learners—are commonplace. Data also show that shortages reach to other fields in the highest-need districts" (Carver-Thomas & Darling-Hammond, 2017, p. 49).

When considering the implications at the state and national levels, districts may need to refocus support plans for teacher retention by working with building level principals to help develop a distributive leadership model. This model may

increase teacher capacity through explicit training from staff and coaches on instructional strategies to support diverse learning needs. Additionally, distributive leadership benefits principals and school leaders in regards to the positive effects the practice may have on standardized test scores. "Distributed leadership may serve as a way to build relationships and trust in schools and be part of a comprehensive strategy to raise student test scores, but distributed leadership in isolation will likely not improve test scores (Pierro, 2020, p. 115). Some possible aspects to examine further is the connection between distributive leadership and a clear vision and mission from the school's principal. Other possible implications to explore are the leadership practices that drive the school culture, and how they positively affect faculty and staff. Additionally, providing faculty and staff with opportunities to lead and build relationships through leadership roles can prove to have a positive impact on district, state, and national school systems. Building level principals and districts that support the distributive leadership models must continue to examine how leaders create an environment that allows individuals the chance to contribute and lead within the institution (Pierro, 2020).

Research question two seeks to answer how districts can support teachers beyond their third year in the field. Within this large Central Florida School District, school-wide induction programs are available within the first three years of employment. Four participants agreed that there was a need for additional support beyond year three. When examining the number of participants that chose education as a second career, many of them shared their struggles with basic instructional strategies to support English Language Learners and behaviors in the classroom. Based on this information, second career teachers within their first three to five years may benefit from additional targeted professional development in the realm of instructional strategies and classroom management. "Most educators would argue that no teacher is an expert after just one year of teaching. In my district, in Robbinsville, New Jersey, we believe that novices should receive induction support throughout the four-year tenure process. This length of time provides new hires with opportunities to develop mastery experiences; engage in sustained, job-embedded professional development; cultivate relationships with other novices; receive non-evaluative feedback from administrators and peers; and acquire confidence" (Tew, 2018, p. 2). Possible implications for school districts statewide and nationally that adopt a multilayer induction program may see higher rates of teacher retention beyond three to five years. In this scenario, teachers are receiving additional professional development as they grow more confident in their practice. Tew (2018) argues that a multilayer induction program that consists of a four-year induction program rather than the traditional three year consumes more time and resources, but the long-term benefits should be the focus. "Though many novices have acknowledged that this program requires much more of a time commitment than a traditional model, they have also said that they felt invested in teaching and much more competent because of the strategies they had learned throughout the program (Tew, 2018, p. 4).

Another important aspect to note concerning district support is the amount of time teachers have to plan. Based on the interviews and associated literature, providing teachers with additional planning time to collaborate with colleagues

may help to mitigate the challenges teachers are experiencing with other hinge points discussed in this study. Providing additional time for planning and collaboration may help the novice teacher to learn about proven strategies and systems that can be incorporated into their instruction. Further, additional time for collaboration with peers may increase morale among school staff. When looking at the implications at the state and national levels, additional dollars provided to teachers for planning and collaboration may serve as an incentive in retaining as well as recruiting new teachers. "A study published in 2007 found that, at that time, the costs to school districts of replacing a teacher who leaves in the early part of her career ranged from $4,366 in a small rural district to nearly $18,000 in a large urban district, at an estimated national cost of more than $7 billion annually" (Kini & Podolsky, 2016, p. 29). This information suggests that is may be less costly to provide teachers with additional time rather than the replacement cost of a teacher in the early part of their career. Additionally, teacher-planning days have implications on student achievement. "Students benefit from teacher in-service days through improved instruction. If their teacher really learned something new that helped them grow, they will probably bring it into their classroom with excitement and vigor. Most teachers are in the profession because they really enjoy helping kids. When teachers are exposed to a resource that helps them do a better job meeting that goal, there is usually no hesitation in taking advantage of it right away (Capriola, 2019, p. 8). Another point to consider is how providing teachers with planning days throughout the school year provide them the time they need to develop creative and innovative lessons without the disruption of their day-to-day schedule (Capriola, 2019). Teachers benefit from additional planning by merely having time to think, create, and plan for innovative lessons to engage their students. Students benefit because they have the opportunity to be exposed to meaningful and well thought out lessons to help them reach their academic goals.

There are limitations to this study, only 10 participants were used due to their specific experience (three to five years) in three elementary schools in one school district in Central Florida. While this permitted for rigorous, in-depth qualitative interviews, information may not be directly generalizable for this study. Future directions may involve a larger sample size with additional teachers.

Recommendations

This study served to determine factors that influence teachers beyond their first three to five years in the field. Some points of recommendation based on the data provided by participants was geared toward more specific professional development based on teacher need, additional planning time, and support from administration with student behavior and instructional strategies.

The first recommendation is to provide teachers with additional time for collaboration. Based on the research findings, creating an environment that promotes collegiality and collaboration may have a positive impact on teacher retention. It is the recommendation that districts continue to provide funding and time to support teachers in this process of working together. Time continues to be

a barrier in the field of education, and providing teachers the opportunity to think and plan in a meaningful way may support an enhanced school experience for all students locally, statewide, and nationally.

A second recommendation is to support building level principals with expelling a distributive leadership model. Based on the findings and associated literature, distributive leadership may create an environment where teacher leaders help to lead the mission and vision of the school. Providing specific and focused school and district initiatives that promote meaningful and relevant professional development for teachers is an aspect to consider. Schools may consider how many initiatives they are rolling out to teachers, and how well they align with the needs of the school. This may lead to continued teacher satisfaction and purpose, which could result in teacher retention. Additionally, training building level principals on the distributive leadership model and its connection to school culture may have a positive impact on student outcomes. When coupling a strong mission and vision centered on building capacity, principals may see a positive impact on school culture and leadership advancement on their campuses.

A third recommendation is to provide alternate route teachers with job embedded professional development with daily challenges such as behavior and effectively instructing second language learners and students with special needs. An item to consider is examining the current mentoring programs and their duration. Continued opportunities for teachers to learn and grow through observation and professional development specific to instructional strategies and classroom management may prove to be helpful with second career teachers. The Central Florida school district does offer alternative route teachers support though online learning modules. Additional support through practical learning and application may increase teacher efficacy and overall satisfaction, which may increase teacher retention. Districts that consider adopting a four-year induction program may see a positive increase in instructional practice and overall teacher retention.

A fourth recommendation would be for the district to review current plans in regards to succession planning. The district's current practice has moved away from teacher evaluation/ performance based data to determine job security. The current practice is to use seniority as a means to determine where budget cuts are made. This system does not take into account teacher expertise and causes teachers to move from one school to the next year over year. This could be a contributor to teacher attrition within the first three to five years.

Based on our analysis and the limitations of the study, we recommend further research in the following areas: (1) Instructional pedagogy and supporting the novice teacher with classroom management and effective instructional strategies. Further research may indicate the positive effects on teacher retention through the lens of specific supports in common areas of need. (2) The effects on providing teachers additional planning to support positive student outcomes. Each of the participants shared how time for planning remained an ongoing issue. In this study, the participants shared the positive impact the additional planning days (ESSER funding) had on their overall management of instruction in coordination with compliance tasks. Time has always been a point of contention with teachers, and providing additional planning may prove to increase teacher satisfaction. (3)

Disparity among ethnic groups and teacher retention rates among black and brown school districts in comparison to white peers. (4) Second career teachers and how to provide high levels of support to those that lack college level teacher training. (5) Lastly, the effect of school culture on the novice teacher is an important aspect that for further research. Ultimately, how does environment play a part in the long-term retention of teachers in education? A study that examines school culture and the connection to teacher retention may provide further evidence on teacher retention.

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Appendix A

Interview Questions

1. Why did you decide to pursue a career in education and what were the influencing factors?
2. When you travel to work each day, what are some of the things you look forward to and why?
3. How could your administration make your work experience better for you?
4. When you became a teacher, what was your vision for the future for your career?
5. What are some of the challenges you have experienced being a teacher and share the ways that your leadership could support change with this?
6. How does your administration play a role in supporting your professional development and in what ways do you feel empowered and motivated to participate in school wide initiatives?
7. In a perfect world, teachers would have more time to devote to instruction and less time on paperwork and compliance. What are some ways that you feel your administration could support you in balancing both of these important aspects of your job?
8. Does the current evaluation system address your professional learning needs and explain your thoughts on receiving feedback from your administrators?
9. Do you feel that feedback on your instructional practice empowers you to learn and grow? Explain how this helps/ hinders your professional growth
10. What does good morale look like to you in a school and in what ways can your leadership work to improve overall morale?

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The Effectiveness of Augmented Reality in Improving Students Motivation: An Experimental Study

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Augmented reality (AR) has become a potential technology tool to improve the skills of students with learning disabilities. The effects of AR technology approach on students with learning disabilities motivation levels is considered as the research motivation. This study examined the effect of the AR on Jordanian 6th grade students' motivation levels. A quantitative quasi-experimental study is preceded with the pretest-posttest control group design model, where 24 students who identified to have learning disabilities were participated in this study and were randomly divided into two groups. Two groups, control group 12 students were taught conventionally, and 12 students were designated as the experimental group, they used the AR technology for four weeks. The results show significant results for the AR technology in enhancing student motivation. The results concluded the effectiveness of AR technology in enhancing students' motivation.

Keywords: augmented reality, learning disabilities, motivation, science.

Introduction

Learning disabilities stem from one or more fundamental psychological processes that involve the understanding or usage of spoken/written language, and it surfaces in the form of the lack of ability to listen, think, speak, write, spell or solve mathematical questions (IDEA, 2007). In regard to this, the movement towards the improvement of educational opportunities for special needs individuals mainly concentrates on the delivery of novel learning models, the cognizance of disabilities categories, and provision of suitable services to students (Al Medlij, 2018). Hence, this calls for the organization of education and training processes for special needs students, by taking into consideration the movements and their characteristics. Emphasis is laid on the possibility to allow learning disabled students to obtain the required social and personal skills, enhance their intellectual ability, their motivation and engagement in class via the facilitation of an enriched learning environment equipped with learning models and services (Arslan Kofoglu, & Dargut, 2020; Cimer, 2012; Savelsbergh et al., 2016). Global studies of this caliber supported the same notion and stressed that learning disabled students suffering from different cognitive and physical disorders require teaching approaches to

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enhance learning (e.g., their achievement, motivation, confidence, spatial ability, interest, engagement and satisfaction) (e.g., Çakır & Korkmaz, 2019; Kellems, Cacciatore, & Osborne, 2019; Weng, Otanga, Christianto, & Chu, 2020).

Literature highlighted that there is a decrease in science achievement among students (Bicer & Lee, 2019). On the basis of prior literature on the topic, students generally lose interest and motivation in learning science courses (Potvin & Hasni, 2014) as they face difficulties in learning science. Erbas and Demirer (2019) attributed such lack of interest and motivation to abstract and invisible course contexts that lead to misunderstandings and low levels of academic achievement. In this line of argument, educators have been constantly coming up with evidence-based practices to ensure that individuals with specific learning disabilities (SLDs) live productive and fulfilling lives and this is possible through the enhancement of effective methodologies and coming up with better ones (Kellems et al., 2020).

Generally speaking, students suffering from disabilities can leverage creative interactive activities, visual presentations, project-based learning, school experiments and other activities that are engagement-based (Obradovic, Bjekic, & Zlatic, 2015). In other words, disable students need to be stimulated through different levels of visual and perceptive aspects (Rega & Mennitto, 2017). Hence, different authors such as Savelsbergh et al. (2016) and Cimer (2012) proposed changes to be made on the teaching style and methods for science subjects. Despite the available teaching approaches that have been utilized for enhancing learning of students without disabilities, the outcome of research on the enhancement of science courses outcomes remains inconclusive as to the top effective interventions (Kellems et al., 2020; Savelsbergh et al., 2016). Developments in technology have extended the teaching/learning boundaries and the development of delivery models of courses, such as e-learning, virtual lectures, augmented reality, video recording methods, computer-assisted teaching, and multi-sensory based teaching (Doğan, 2015; Kellems et al., 2020). To begin with, Doğan (2015) reached to the conclusion that extracurricular activities driven by technology positively impact the students' cognitive and physical development, and Doenyas et al. (2014) revealed that ASD students can be inculcated with ordering skills through web-based iPad application. Similarly, Escobedo et al. (2012) focused on the development of auxiliary tool to support social skills of ASD children and concluded that the tool did bring about learning and social skills application while reinforcing social interaction both in the qualitative and quantitative sense. Moving on to another study, Çakır and Korkmaz (2019) revealed that AR teaching materials are invaluable to special needs learning in a way that it enhances interest and readiness to learn. In conclusion, authors are of the consensus that technology use in teaching and learning assists success of students with and without disabilities (e.g., Çakır & Korkmaz, 2019; Kellems, Cacciatore, & Osborne, 2019).

Education-centered research has been pro-active in defining particularly actions that teachers can avail from to enhance their students' motivation in the classrooms (Huitt, 2011; Taran, 2005). In this regard, the active participation of students in their learning has been found to be significantly related to motivation, while motivation is significantly related to their achievement in academia (Weiser, 2007). The past few years have seen increasing efforts in the technology usage to

support and enhance learning, with learning environments transforming in the form of integration of computers, multimedia material, whiteboards, internet, Web 2.0 authoring tools, simulations, games and mobile phones as well as immersive technologies (e.g., 3D virtual worlds, flipped learning and augmented reality) (Dror, 2008; Khan, Johnston, & Ophoff, 2019; Jdaitawi, 2020a; Jdaitawi, 2019). AR application studies in education are still in their infancy stage and thus, they are limited, particularly those focusing on effects and implications of AR in the education field (Khan, Johnston, & Ophoff, 2019; Jdaitawi & Kan'an, 2022). According to Kamil et al. (2008), school engagement is the level to which a student processes the activity/task using active strategies and using prior knowledge (p. 26). Student engagement and motivation, therefore, have had a key role in successful learning and the selection of engagement and motivation strategies facilitating and enhancing the student's learning process (Mundy, Hernandez, & Green, 2019). Gersten, Fuchs, Williams, and Baker (2001) and Wood and Blanton (2009) advocated that engagement makes a great difference in the comprehension of the students in his/her participation abilities in discussion, activities, particularly those that require higher order thinking skills. In this regard, technology has become an invaluable strategy used in schools (Mundy, Hernandez, & Green, 2019), with computers, Internet and videos being the top technological resources availed within classrooms (Mundy, Hernandez, & Green, 2019). In addition, instructors are constantly searching for innovative methods to use, such as tools that bring about the process of learning with ease through higher student's engagement (Mundy, Hernandez, & Green, 2019). However, the innumerable technologies that have been used in instruction succeed only as far as the ability of technology to enhance the students' engagement and interests. With the development of technology and its integration into school curriculum, AR is predicted to lead to enhanced engagement and motivation (Mundy, Hernandez, & Green, 2019).

There is a consensus among scientists, researchers and teachers as to motivated learning motivation, with motivated students being those that are inclined towards engagement, persistence and expending efforts towards completing their tasks rather than those who are not (Schiefele & Csikszentmihalyi, 1995). AR applications usage may lead to enhanced motivation and enhancement of academic achievements among students (Khan, Johnston, & Ophoff, 2019), with AR utilized to increase their motivation and attention, and their interaction with AR objects for understanding and memory retention (Sahin, Keshav, Salisbury, & Vahabzadeh, 2018). Furthermore, as an emerging interactive technology AR has been used to enhance learning among students with disabilities through the enhancement of their motivation and engagement, which in turn lead to other positive results (Sahin, Keshav, Salisbury, & Vahabzadeh, 2018; Dhamdhere et al. 2019). One of the studies supporting this notion is Çakır and Korkmaz (2018) who related that AR teaching materials is suitable and useful in light of the development of students with special needs, and they are used to provide real-life experiences for training. The students showed interest and enthusiasm towards the course with increased readiness to learn the lesson, and the subjects, and they were more proactive and responsive to the questions being asked. In the context of university students, Çakır, Solak, and Tan (2015) reached to the conclusion that AR technology materials development impacted the learning autonomy of students, particularly

with mobile augmented reality (MAR). This in turn, affected their academic success and cognitive burdens as well as their perceptions of practical professions. On the basis of the findings, students in the experimental group exposed to MAR applications showed higher success and lower cognitive loads in comparison to that of the control group, with the former group's positive learning perceptions when it comes to MAR. In a related study, Dhamdhere et al. (2019) related that AR assists abnormal kids in their cognitive and motor skills development and make them look forward to education through fun, interactive and compelling activities.

In the realm of learning, augmented reality (AR) is deemed to be an invaluable technology to pave the way for teaching and learning while increasing the achievement of success among students with and without disabilities (Çakır & Korkmaz, 2019; Kellems, Cacciatore, & Osborne, 2019). Currently, (AR) is transforming the students' (with and without special needs) interaction and engagement with animated objects through their visualization of the topics and understanding of actual situations and problems (Weng, Otanga, Christianto, & Chu, 2020). A few recent studies dedicated to the impact of AR applications use for teaching students with disabilities revealed positive effects, but they are still not enough to shed light on AR apps use and actual effects (Kellems et al., 2020; Rega & Mennitto, 2017). Research is still lacking on the impact of mobile AR usage in the field of education and the issue still calls for thorough exploration (Sahin, Keshav, Salisbury, & Vahabzadeh, 2018; Khan, Johnston, & Ophoff, 2019; Di-Serio, Ibanez, & Kloos, 2013; Lin, Chai, Wang, & Chen, 2016), specifically with regards to AR effect on students' motivation (Di-Serio, Ibanez, & Kloos, 2013). Hence, the need for further exploring AR and learning disabilities along with the categories (Kellems et al., 2020; Ok, Haggerty, & Whaley, 2020; Mundy, Hernandez, & Green, 2019). The study primarily aims to establish and contribute to the knowledge base of interventions that motivate students', particularly students with disabilities through the use of AR approach in a basic science course. Therefore, the study attempts to answer the following research questions:

1. Is there a significant difference between motivation of students with learning disabilities when learning basic science lessons using AR approach, and motivation of students when learning using the traditional approach?
2. Do the total students mean score have different motivation level in the pre-test compared to the post-test?

Research Methodology

General Background

A quantitative quasi-experimental approach with equivalent control group pretest and posttest design was employed (Creswell, 2012), to explore the AR effectiveness in students' motivation. The students were selected from two primary schools in Jordan. A survey method was used to collect data from the study participants as it has been generally used to determine characteristics abilities, and attitudes, expectations and thoughts (Creswell, 2012; Fraenkel & Waleen, 2006; Jdaitawi, 2020b). The study group consisted of 24 grade 6th students in primary schools that have special needs to examine AR supported instructional experience.

Students with special need were defined as individual with disability such as visually, hearing, intellectual and learning. However, students with special education needs in this study were identified to have a special designed education program to fit their needs especially those whom required development instruction to fully participate in class activities. 24 students were included and were identified using purposive sampling method, where the sample is determined on the basis of the research purpose (Fraenkel & Wallen, 2006). This research used the criterion of experience in AR supported instruction to determine the study group. The instruction was provided in a span of 4 weeks divided into 4 units according to the 6^{th} grade science curriculum of the academic year 2018/2019, using AR application. The students were categorized into two groups (AR groups and Control group).

Research Setting and Sampling

In this research, 6^{th} grade students were selected from schools having students with special needs in Jordan. A total of 24 students were selected and assigned into two groups 24 students were selected as they were accessible and available to the researcher. 12 (50%) students were selected as the experimental group taught using the AR application to learn science, and the other 12 (50%) students taught using the traditional approach.

Research Instruments

This study used tools to collect data included demographic variables, motivation test, which were administered among school students with learning disabilities. With regards to the motivation scale, the study made use of the learning motivation questionnaire that Keller (1987) developed to determine the motivation level of the secondary school students when it comes to learning using AR technology. Fifteen (15) out of the 36 items were selected for the study for the same purpose because of the limitations in time and class sessions. This scale was employed by prior studies of the same caliber such as Chen, Huang, and Chou (2019). The 15 items were forwarded to the experts for perusal and for content validity. Each item was measured using a 5-point Likert scale, which ranged from 1 (strongly disagree) to 5 (strongly agree).

Validity and Reliability

Necessary permission was obtained from the schools where the research was conducted followed the guidelines and ethical principles stipulated by Jordanian Ministry of Higher Education & Scientific Research. Furthermore, the researcher informed the participants that the data will be used for the research purpose only. The original version of research instruments was developed in Arabic, since students participated in this research are native language being Arabic, the instrument was translated and validated translators for Arabic speaking students. However, the instruments were translated by two bilingual speakers who are specialists and a PhD holder. The translated version was given to 5 educational experts for instruments validations, most of them working at the university and some with special needs students. The experts highlighted some issues, and their feedbacks were accepted and incorporated and were corrected accordingly. For the internal consistency of the scale, reliability coefficient was obtained for the study and was found to be 0.73. The values supported the validity and reliability of the scale to assess the secondary school students' (with disabilities) motivation towards using AR applications. The coefficient of reliability of the scale was obtained and found to be 0.62, supporting the scale's validity and reliability in assessing the engagement of secondary schools' students' (with learning disability) towards learning through AR applications. AR application was developed by taking the acquisitions an activity of the "Space" unit included in the 6^{th} grade science class, based on the activities in the textbook. Initially, in this study, the research obtained the opinions and feedback of 2 field experts, 2 teachers and 3 technical experts during the process of the AR application development. The study conducted pre-test and post-test evaluation. There were 24 students with special needs at the schools. In a ten minutes pre-test organized in the first day, students were given a question to answer without access to any information material or reference classes. Next, they were given the questionnaire related to the study variables. Then, the students were split into two groups. The first group was a control group and the teacher taught them using traditional method, which began by explaining the main ideas and supportive activities and ending by assigning assignment and discussion. The second group was exposed to AR classes in their learning activity. The AR classes were introduced into several lessons in science curriculum. The introduction lesson involved assistant from the teacher as a moderator to demonstrate the activity to students and detailing their difficulties in the subject's context in the form of a visual. Then the students would have to repeat the activity without assistance. Then teacher introduced AR activity to easier the topic. For each task, participants were accompanied after the learning activities, the post-test questionnaire were distributed to students for completion experimental group were taught using AR application.

Data Analysis

The data was examined for checking the normality (skewness and kurtosis = ± 3.00-7.00) and outlier (Mahalanobis) cases using several indicators such as (Judd, Westfall, & Kenny, 2017; Tabachnick & Fidell, 2007). However, the results proved to be normal and outlier cases were identified. Descriptive statistics such as mean *M* and standard deviation *SD* and other statistical tests such as independent sample t-test, and Paired sample test were involved in this study to identify the possible mean differences between the AR group and control group.

Research Results

Prior to testing the hypotheses, the study conducted independent sample T-test on the independent samples to identify the statistical equivalence of the groups. Motivation is the dependent variable examined in the present study. In the initial set of statistical tests, the differences between the experimental and control groups in pre-test motivation was obtained based on the level of significance (0.05). Insignificant differences in t-test were found between the groups based on pre-test of motivation scores (t=-1.250, 0.224, p>0.05). The test was specifically used to determine if the learners placed in both groups had significant differences in terms of motivation in the pre-test. Results indicate insignificant differences, and the groups were equal prior to examination of motivation. Table 1 results indicates that students exposed to AR application in basic science learning had enhanced motivation, with the mean score off 3.20, SD=0.304. The results of t-tests are presented in Table 1, and based on them, a significant difference was found in the motivation level between the two groups (one learned through AR technology and other through traditional methods) at (t=2.397 (0.025, p<0.05). The mean score obtained by the experimental group in terms of motivation is 3.20, with standard deviation of 0.304, while the control group's motivational level is 2.78, with standard deviation of 0.528 as shown in Table 2. The mean results support the positive contribution of AR technology in enhancing the motivation of the students.

Table 1. T-test Results Between Groups for Posttest Motivation

Variable	**Mean**	**Standard Deviation**	**t-value**	**Sig. 2-tailed**
Motivation				
AR Group	3.20	0.304	2.397	0.025
Control Group	2.78	0.528		

Table 2. Summary Statistics for Motivation Variable Posttest (N=24)

Variable	**Mean**	**Standard Deviation**
Motivation		
AR Group	3.20	0.304
Control Group	2.78	0.528

For the total sample mean score, motivation pre and post-test was determined and presented in Table 3. From the table, it is evident that the students that used AR application in learning basic science had enhanced motivation levels with a mean score of 2.99, SD=0.473, after AR technology was implemented. The study used paired sample test to identify if there are significant differences between the pre-post motivation in using AR technology. Table 3 shows significant differences between the pre-post-test motivation level, having a value of (t=4.411 (0.000, p<0.05). In Table 3, the mean score value obtained by the posttest motivation is 2.99 with standard deviation of 0.473, while the pretest motivation level mean is 2.48, with standard deviation of 0.352. Based on the results, AR technology positively contributes to students' motivation enhancement.

Table 3. T-test Results of the Groups for the Pre-Posttest Motivation

Variable	**Mean**	**Standard Deviation**	**t-value**	**Sig. 2-tailed**
Motivation				
AR Group	2.99	0.473	4.411	0.000
Control Group	2.48	0.352		

For students' recipients of AR application approach (experimental group), their motivation pre and post-test was determined and presented in Table 4. From the table, it is evident that the experimental group students that used AR application in learning basic science had enhanced motivation levels with a mean score of 3.30. The study used paired sample test to identify if there are significant differences between the pre-post motivation in using AR technology for the experiment group. Table 4 shows significant differences between the pre-post-test motivation level in the experimental group, having a value of (t=5.546 (0.000, p<0.05). In Table 4, the mean score value obtained by the posttest motivation is 3.30 with standard deviation of 0.362, while the pretest motivation level mean is 2.53, with standard deviation of 0.292. Based on the results, AR technology positively contributes to students' motivation enhancement.

Table 4. Paired Sample T-test Results Experimental Group for Pre-Posttest Motivation

Variable	**Mean**	**Standard Deviation**	**t-value**	**Sig. 2-tailed**
Motivation				
Pre	3.30	0.365	5.546	0.000
Posttest	2.53	0.292		

Discussion

The primary aim of this study is to examine the AR application effectiveness in enhancing the motivation of students with learning disability. The AR application was developed on the basis of basic science lessons teaching materials and incorporated into the study framework, with the assistance and feedback of field experts, technical experts and teachers. Prior to gathering data, students were

exposed to basic science lessons provided through the AR technology approach for two weeks. The students were thus provided a learning experience using the technology. Notably, AR supported positive environment in classrooms which is in contrast to that of traditional classroom, and the former is expected to lead to higher motivation of students towards learning basic science. Using AR technology provides advantages in the field and environment of education, providing active and interactive learning through enhanced reality (Sirakaya & Cakmak, 2018). The finding supported a significant result, and this may be attributed to the involvement of AR technology in the learning activities, within which it simulated complex knowledge for easy learning.

In literature, Chen, Huang, and Chou (2019) related that AR technology presents lessons through the combination of actual real-world environment and virtual objects, the result of which immerses students in the learning content and its exploration. The significant result may also be due to the students' inspiration via the AR learning approach which facilitated their enjoyment in class and enabled their interaction with the activities. AR activities thus contribute to the learning of students with learning disabilities, through exercises which pave the way to recognizing lessons and practical activities contributing to the students' motivation level. According to Çakır and Korkmaz (2019), AR technology materials is suitable to use in enhancing dyslexic students' motivation and in understanding information while Yip, Wong, Yick, and Chan (2019) revealed that AR technology brings about the processing skills, learning motivation and tasks understanding among students. The study findings supported those reported by prior studies, which supported the integration of new technology (i.e., AR) into learning activities for motivation enhancement (Çakır & Korkmaz, 2019; Hwang, Wu, & Kuo, 2013). Specifically, Chiang, Yang, and Hwang (2014) investigated the AR-based mobile learning inquiry activity and revealed that students exposed to AR-based system in learning learned from real-world environment and virtual objects, with enhanced level of motivation in learning. The students supported the assistive effectiveness of AR technology as a promising learning tool.

Studies dedicated to AR and its contribution to special education needs and motivation are still few and far between (Baragash, Al-Samarraie, Alzahrani, and Alfarraj 2019; Khan, Johnston, & Ophoff, 2019; Sirakaya & Sirakaya, 2018; Yuliono & Rintayati, 2018) but what few studies there are supported evidence for technology-supported environments and their contributions (e.g., Alghabban, Salama, & Altalhi, 2017; Bakker, Van-den, & Robitzsch, 2016). In particular, Di-Serio et al. (2013) recommended that education-based AR may be used to assist in attracting and maintaining learners' attention and interest, while supporting their learning environment. In the context of special education, AR technology was evidenced by Lin, Chai, Wang, and Chen (2016) to improve the motivation level of children with disabilities, and to enhance their participation in educational activities. The authors found learning activities developed on AR technology for special education students to be easier to provide explanations and demonstrations. In a related study, Baragash, Al-Samarraie, Alzahrani, and Alfarraj (2019) conducted a meta-analysis that eventually supported the effectiveness of AR technology in learning promotion and in obtaining social, living and physical skills among students with special needs. Also, Gomez-Puetra, Chiner, Melero-Perez, &

Lorenzo (2019) and Alshafeey et al. (2019) illustrated potential advantages of AR for individuals suffering from disabilities and these were self-determination, self-management, guidance, and the promotion of mental and physical disabilities normal living and hobbies. Based on literature dedicated to AR teaching material, positive contributions are provided to the motivation level of students. The study results support those of prior studies in literature, where students that are dyslexic were motivated towards learning in a technology-based environment.

In another related study, Khan, Johnston, and Ophoff (2019) reported that the immersion and interaction features of AR may be the catalyst in the students' learning motivation. Also, basic science lessons are lessons that could assist learners in absorbing diverse range of skills, abilities and engagement. Students with learning disabilities often prefer individual learning styles and as such, AR technology allows them to learn at their pace, while promoting individualized learning approach (Bujak et al., 2013) and improving class outcomes. The obtained significant result in this study is aligned with that reported by Kamarainen et al. (2013) and Lindgren, Tscholl, Wang, and Johnson (2016) who revealed that AR instruction recipient students showed positive outcomes compared to their peers.

Conclusion and Suggestions

In the present study, the obtained findings have implications to the use of learning instruction delivery using technology method and its role in improving motivation, and eventually personal and academic skills success among students with learning disabilities. The study's research questions are significant for researcher and practitioner circles – for the former, it has implications in terms of limited database of interventions for students with special learning disabilities, with the use of AR technology, and for the latter, it has implications as to the most effective instruction method for learning. Both can steer clear of making extrapolation attempts that are known to one population and not to the other without evidence of guidance as to the decisions to be taken. The study specifically examined 6^{th} graders with specific learning disabilities to determine whether the instruction method could enhance their learning motivation. Evidence found showed that students with learning disabilities may benefit from AR instructional methods when learning basic science. In literature, studies of this caliber (e.g., Maccini, Mulcahy, & Wilson, 2007; Stultz, 2017) support the use of AR for special education classes albeit some of them are quite outdated.

The research appeared to be confined to disable students and their exposure to AR technology. Stated clearly, the study refers to students with learning disabilities, and thus generalizability towards all students with disabilities should be carried out with caution. Literature revealed so long as the elements of effective instruction namely, modeling, guided/prompted practice, and instruction, required interactive diagrams, graphics and visual strategies are supported with technology, the instructional modality (AR) did not make a difference. The study results are expected to contribute to empirical studies on combined instructional AR design in

the school context. The results also support individualized and effective academic learning for school students who are deserving of the top effective teaching approaches supported by technology.

This study has two major contributions namely, the examination of effective instruction using AR as a direct method for disabled students and the examination of the AR technology effects on disabled students' motivation, that were largely untouched in literature. The study results recommend that the integration of disabled students into general education classes should involve exposure to several instructional approaches that can generate positive outcomes. It is noteworthy that students with learning disabilities should be provided with the top effective instructional approaches for learning optimization and research and practice should focus on this element. The study findings showed that students' learning is at its best when various instructional strategies are used, specifically those that are technology-assisted. It is thus recommended that both teachers and students select the instruction method suitable and most effective for learning skills, motivation enhancement in the process of learning.

This study has several limitations that have to be considered prior to its extension by future authors, one being the sample size that prevents results generalization to the students' population. Extending the present study sample and experimentation to other students is suggested. Despite the fact that the results indicated the effectiveness of the approach in enhancing the mean scores of motivation levels of students, the experimentation only spanned four weeks and thus, the period should be extended by future studies. This study is also confined in terms of the method used for data collection (self-report measures) as this could contain inflated biases, because of the influence of social desirability. Hence, future studies should examine the objectives using a combined method (quantitative and qualitative). The study can be extended by increasing the sample and period of study to ensure accurate results. The current study conducted an examination of AR technology use in improving the levels of motivation and engagement among 6th grade dyslexic students. The study found AR technology to be effective in realizing positive and promising outcomes. However, further studies are required for the confirmation of results and to provide empirical evidence towards supporting the study variables in the context of disabled students.

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