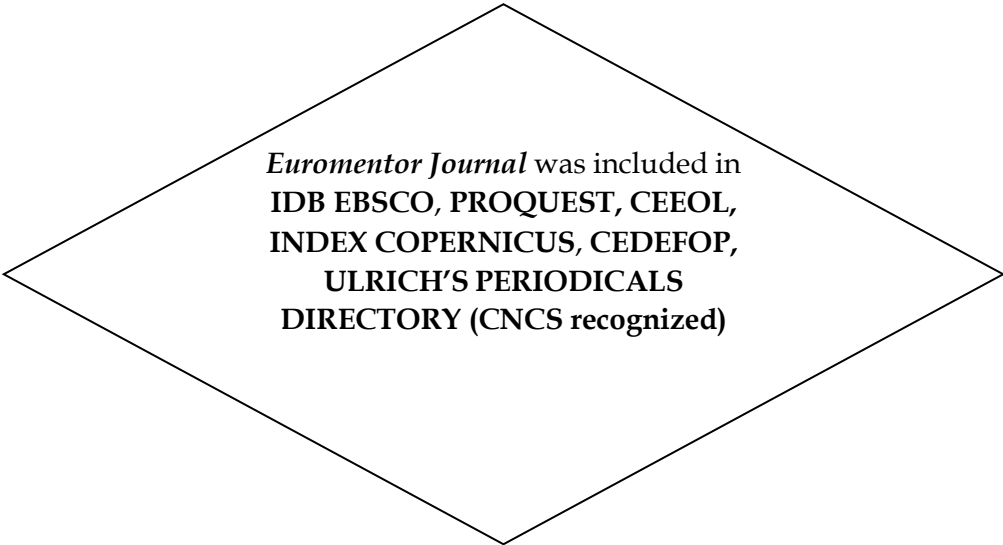


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LESSONS LEARNED IN THE YEAR OF THE PANDEMIC: A CASE STUDY OF NAGOYA UNIVERSITY OF COMMERCE AND BUSINESS

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Abstract: *The present paper discusses some of the lessons learned at a private commerce university in Central Japan one year after the breakout of covid-19 pandemic. These are: infrastructure support and capacity building, staff training and collaboration, and student accessibility. The paper also touches upon the probable post-covid-19 trend of diversification and blending online education and face-to-face (F2F) instruction. It details some of the successes and challenges of a system which tried to respond rapidly to an extreme situation never experienced before, while making efforts to keep its promise of quality assurance to its stockholders.*

Keywords: *covid-19, remote learning, Japan.*

From the official onset of the covid-19 pandemic in February 2020, around 1.6 billion learners from over 190 countries¹ could not attend school because of school closures, one of the most common measure worldwide to stave off the wave of infections and casualties. While education disruption due to crisis situations might not be a new thing, it is estimated that “the global scale and speed of the current educational disruption is unparalleled and, if prolonged, could threaten the right to education”², with consequences to be assessed in the coming years.

Covid-19 has caused “a tidal wave of disruption to the higher education sector”³, forcing global experimentation with remote teaching⁴.

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¹ UNO, “Education during COVID-19 and beyond”, *The United Nations Educational, Scientific and Cultural Organization, UNESCO*. Paris, France, June 2020.

² Audrey Azulay, director-general of UNESCO, <https://jp.reuters.com/article/us-health-coronavirus-education/coronavirus-deprives-nearly-300-million-students-of-their-schooling-unesco-idUSKBN20S1F9>

³ R. MacIntosh, “Leadership intelligence: How to manage in unchartered territory”, 2020, <https://chartereddabs.org/leadership-intelligence-how-to-manage-in-unchartered-territory/>.

⁴ L.-A. Ewing, “Rethinking higher education post COVID-19”, In J. Lee and S. H. Han (eds.), *The Future of Service Post-COVID-19 Pandemic, Volume 1*, The ICT and Evolution of Work, 2021, pp. 37-54, https://doi.org/10.1007/978-981-33-4126-5_3.

Educational institutions have shifted their course contents online, commensurate with to the human and material resources available at the time. While technologically advanced countries such Japan, U.K., U.S., etc. were ready to promote their technological competencies and use the affordances of digital media and learning tools, less prosperous countries used the pandemic as an opportunity to initiate the use of technology in teaching and learning⁵. Notwithstanding the speed and the amplitude of the tertiary education institutions' response, the current crisis has revealed major vulnerabilities in education systems worldwide and the need for "flexible and resilient education systems"⁶, able to adapt to an increasingly unpredictable future. Ali (2020) identifies infrastructure support, staff readiness and student accessibility as three focal areas of importance.⁷ Kang (2021) adds expansion of distance education (synchronous and asynchronous) and deployment of Learning Management Systems (LMS) and AI in education services⁸.

Huang (2020) opines that the relatively more restrictive measures applied in Japanese higher education institutions make Japan's experience and response to the pandemic unique compared to Western and East Asian countries⁹. According the Ministry of Education, Culture, Sports, Science and Technology (MEXT), over 90 percent of universities in Japan postponed the starting of their academic year, which, unlike in many other countries, starts in April, and carried out online teaching and learning using electronic instruction. MEXT provided a supplementary US\$93 million to universities to "ensure a good teaching and learning environment for students"¹⁰, alongside financial support in the form of reduction in tuition fees, waivers and scholarships¹¹.

⁵ P. Paudel, "Online education: Benefits, challenges and strategies during and after COVID-19 in higher education", *International Journal on Studies in Education (IJonSE)*, 3(2), 2021, pp. 70-85.

⁶ W. Ali, "Online and remote learning in higher education institutes: A necessity in the light of COVID-19 pandemic" *Higher Education Studies*, 10(3), 2020, pp. 16-25.

⁷ Ibidem, pp. 19-21.

⁸ B. Kang, "How the COVID-19 pandemic is reshaping the education service", In J. Lee and S. H. Han (eds.), *The Future of Service Post-COVID-19 Pandemic, Volume 1*, The ICT and Evolution of Work, 2021, 15-36, https://doi.org/10.1007/978-981-33-4126-5_2.

⁹ F. Huang, "A distinctive response to COVID-19 in higher education", *University World News*, Dec. 5, 2020,

<https://www.universityworldnews.com/post.php?story=20201204090340951>.

¹⁰ Ibidem, para. 11.

¹¹ Kang, *op. cit.*, p. 16.

Nagoya University of Commerce and Business (NUCB) is a private university located in the Chubu region of Japan. Its efforts to surmount the covid-19 crisis with minimum of negative impact upon students and the teaching process have been covered in the local media over the past year. However, this process did not start in 2020, as the university has long been a promoter of wide information literacy. Founded in 1953, with the motto of Frontier Spirit on its frontispiece, the university opened its Computer Center as early as 1976 and established its campus LAN in 1986¹². Starting from 1985 it has been providing computers free of charge to all of the new entrants (switched to Macintosh laptop computers since 1992). The university boasts three campuses which offer modern education and connectivity facilities: Nisshin/Nagakute, Nagoya (Fushimi) (undergraduate) and Nagoya Business School at Nagoya Marunouchi (graduate). Let us have a look at how this private university negotiated the transition from F2F teaching to the live virtual mode.

Lesson 1. Infrastructure support and capacity building for connectivity.

In a previous paper Nae (2000) pointed out that, compared to other technologically advanced nations, Japan's higher education institutions have been slow to implement information and communication technology (ICT) and learning management systems (LMS)¹³. Although Japan ranks 10th out of 176 countries in the ICT Development Index, which measures ICT infrastructure and access, intensity (use of internet), and skills (schooling)¹⁴, their implementation in higher education was shown to be quantitatively and qualitatively inferior to other advanced nations such as the U.S., U.K. and even South Korea.¹⁵ The uneven use of the infrastructure among national and private education institutions has brought into relief the Japan's vulnerabilities to major cataclysmic events, which the country is prone to. Huang (2020) points out that private universities were faster to adapt to the new situation, noting that in June

¹² NUCB website, <https://www.nucba.ac.jp/en/university/history/>.

¹³ N. Nae, "Online learning during the pandemic: Where does Japan stand?" *Euromentor Journal*, XI (June), 2020, p. 11.

¹⁴ V. Marin et al., "A comparative study of national infrastructures for digital (open) educational resources in higher education", *Open Praxis*, 12 (2), 2020, p. 7.

¹⁵ Kyoto University, Study on ICT usage at Japanese higher education institutions. MEXT, 2014, p. 345.

https://www.mext.go.jp/component/a_menu/education/detail/__icsFiles/afieldfile/2014/05/19/1347641_05.pdf

2020, 26.7 percent of all national universities used both face-to-face (F2F) and online instruction, contrasting with only 5 percent of local public and 10.7 percent of private universities who used F2F instruction¹⁶.

Short after the onset of the coronavirus pandemic, NUCB cancelled all ceremonies (graduation ceremony in March and matriculation ceremony in April). It then decided to move all courses, examinations and staff meetings online, in live virtual mode, using the online conference tool Zoom and increasing the use of LMS (Google Classroom) for classroom instruction. As a matter of fact, Google Classroom had already been used for a number of years to replace Blackboard for posting course syllabi, announcements, assignments, and grading. Next, in a short time, until the commencement of the academic year, the administration went on to ensure that performant hardware was in place for the seamless transition to remote teaching. Arrangements were made for converting vacant offices into Online Teaching Studios, which were equipped with state-of-the-art technology (4k cameras, large displays, laptops or tablets, high-speed wired LAN, etc.). Moreover, due to the large number of courses conducted simultaneously, teachers had the option of using their own offices for remote teaching, and offices were equipped with large whiteboards, performant cameras and displays, and high-speed internet connection).



Fig. 1. Live virtual class conducted in the studio (Source: NUCB Business School website)

¹⁶ Huang, *op. cit.*



Fig. 2. Live virtual class conducted in the professor's office (Source: Yahoo! Japan)

One of the problems which has confronted Japanese learners during the pandemic was the lack of computers, connectivity tools and opportunity to use digital technology for learning. A 2020 OECD report on school education during covid-19 reveals that only 61 percent of the 15-year-olds involved in PISA 2018 reported having a computer they could use for school work, which is lower compared to the OECD average of 89 percent¹⁷. Moreover, according to data from the OECD's 2018 PISA, 89 percent of respondents never or hardly ever used ICT in math classes, 78.9 percent gave the same answer for science classes. Only 2 percent of them used a computer for homework, which is considerably low compared to the OECD average of 20 percent.¹⁸

As mentioned earlier, NUCB's policy of providing new laptop computers to all university students upon enrollment has been a life-saver in times of crisis. In addition, information literacy courses are offered as a mandatory subject in the first year, so all the students are well-versed in using Microsoft Office Suite (Microsoft Word, PowerPoint and Excel), Google Classroom and other tools for obtaining syllabus information, communicating with peers and teachers, and receiving and sending home assignments and classroom handouts. Students' assignments,

¹⁷ <http://www.oecd.org/education/Japan-coronavirus-education-country-note.pdf>

¹⁸ <https://www3.nhk.or.jp/nhkworld/en/news/backstories/1137/>

presentations and graduation theses are created and edited using the computer and are generally submitted electronically.

In 2020, despite a slight delay due to the large demand of computers nationwide, all NUCB students were able to attend the courses using their new laptop computers. The first half of the academic year (beginning of April-end of July) was conducted entirely in the live virtual mode, as all campuses were closed to prevent further covid-19 spread. The second half of the year (September-January) witnessed a partial return to F2F teaching, while observing the necessary precautions of social distancing, mandatory mask wearing and proper ventilation of classrooms. At the same time, remote teaching was also ongoing in proportion of 20 percent. Nevertheless, the good practice of using computers during classroom instruction has continued even after F2F classes were resumed. Written examinations were conducted in virtual live mode using Zoom, Google Classroom and Office Lens app. From the technological and logistic point of view, the university spared no expense to make sure that the shift from F2F teaching to virtual live was as smooth as possible. Besides the frills and bells of expensive gadgets, there is one lesson which NUCB, it seems, has learned well: be proactive. Investing in infrastructure, such as providing students with laptop computers, establishing strong internet connectivity and implementing the newest Learning Management Tools early on pays off in the long run and makes the adjustment to extreme situations less of a traumatic experience for students and staff.

Lesson 2. Staff training and collaboration

Can technology and state-of-the-art gadgets only guarantee that students' remote experience of learning is at least as satisfactory and intellectually stimulating as traditional learning? This brings us to the second lesson: staff training. Kang (2021) points out that many teachers, in Japan and elsewhere, are "uncomfortable or unfamiliar with technology"¹⁹, and a smooth transition to distance learning requires not just a solid infrastructure, but also support for teachers, students and parents.²⁰

The experience of the covid-19 pandemic has taught us that, even in a technologically advanced university, teaching staff was insufficiently prepared to transition from brick-and-mortar classroom teaching to virtual teaching, and the first weeks were extremely stressful for all involved.

¹⁹ Kang, *op. cit.*, p. 33.

²⁰ Ewing, *op. cit.*, p. 39.

Although the teachers at NUCB were provided with thorough training and ample opportunity to test the technology and learn the basics of Zoom and other digital tools, two major questions loomed large: (a) is it enough to use the same classroom teaching methods for online teaching?; and (b) how to plan and conduct a successful lesson for teaching online? The diverging opinions on the transferability of F2F teaching in the online medium have been discussed in a previous paper (Nae, 2000). While some authors believe that it is pedagogical excellence that makes for good learning, irrespective of medium of instruction^{21,22}, others differ and point to essential differences between teaching F2F and in a virtual classroom. Kearsley (1998) stresses that “distance education is really about creating a different kind of structure for learning and teaching, *not* the use of technology”²³ (*emphasis added*). As weeks passed, the author herself became increasingly aware that something did not work as it had always worked in F2F mode. This was not due to our lack of experience and knowledge in how to use the software and hardware, which, after a few training sessions we got to master to a certain extent. It was a different kind of knowledge entirely. What could be done? One can go the trial-and-error path, trying to decipher students’ micro-expressions and address their suggestions (often expressed anonymously at the end of the course). Bao suggests dividing the teaching content into smaller units and adopting a “modular method” to help students focus²⁴. She opines that, given the heavier burden of teachers in online teaching compared to F2F teaching, support should be available from teaching assistants, who can communicate with students via email or other social platforms after class²⁵. Johnson et al. (2012) suggest “bootcamps” in which the teachers learn not just how to use technology, but also understand the functions of digital

²¹ T.L. Russell, “The ‘No Significant Difference’ Phenomenon as Reported in 248 Research Reports, Summaries, and Papers”, 4th ed. N.C. State, Raleigh, N.C. [Online]. <http://tenb.mta.ca/phenom>, 1997.

²² I. Jung and I. Rha, “Effectiveness and cost-effectiveness of online education: A review of the literature,” *Educational Technology*, 40 (4), 2000, pp. 57–60.

²³ G. Kearsley, “Educational technology: a critique”. *Education Technology*, 38(2), 1998, p. 49.

²⁴ Bao W., “COVID-19 and online teaching in higher education: A case study of Peking University”, *Hum Behav & Emerg Tech*, 2020, 2, pp. 113–115.

<https://doi.org/10.1002/hbe2.191>.

²⁵ *Ibidem*, p. 114.

technologies in education²⁶. Colpitts et al. (2020) emphasize ongoing support “from peers and IT specialists”²⁷. Czerniewicz (2020) stresses the importance of maintaining “human connection”, of teamwork and collegiality amid the increasing social distance caused by covid-19²⁸.

Lesson 3. Student accessibility

Teachers who have faced difficulties handling the challenges of the shift to live virtual during the pandemic have been constantly aware of the deftness with which their students, the so-called “digital natives” navigate the tangled web of social networks, apps and internet media using their smartphones. However, this might be a myth. We tend to assume that, because our students spend more time in the company of technology, they have higher acceptance and receptiveness towards online learning²⁹. While this might be arguably true, Barron and Gruber (2008) differ, pointing out that “while we agree that our students seem technologically savvy, we also often notice that they do not exhibit critical and analytical technological literacy skills”³⁰. Although the situation of “digital natives” taught by “digital migrants” (to use Prensky’s (2001) classification³¹) might seem paradoxical, students look to their teachers for guidance on how to effectively use the plethora of digital resources so readily available in online learning. Moreover, assuming that online learning is suitable for everyone is erroneous. Li and Akins (2005) believe that in order to fully reap the benefits of online learning, learners must be “highly motivated

²⁶ T. Johnson, M.A. Wisniewski, M.A., Kuhlemeyer, G., Isaacs, G. and Krzykowski, J., “Technology adoption in higher education: overcoming anxiety through faculty bootcamp”, *Journal of Asynchronous Learning Networks*, 16 (2), 2012, pp. 63-72.

²⁷ Colpitts, B.D.F., Smith, M.D. and McCurrach, D.P., "Enhancing the digital capacity of EFL programs in the age of COVID-19: the ecological perspective in Japanese higher education", *Interactive Technology and Smart Education*, Vol. ahead-of-print No. ahead-of-print, 2020, <https://doi.org/10.1108/ITSE-08-2020-0123>

²⁸ Laura Czerniewicz, "What we learnt from "going online" during university shutdowns in South Africa", *Phil on EdTech*, March 15, 2020.

<https://philonedtech.com/what-we-learnt-from-going-online-during-university-shutdowns-in-south-africa/d>

²⁹ Ali, *op. cit.*, p. 20.

³⁰ N.G., Barron and S. Gruber, "Assessing the intersections of rhetorics, technologies, and bodies", *Journal of Literacy and Technology*, 9(2), 2008, p. 5.

³¹ M. Prensky, "Digital natives, digital immigrants part 1", *On the Horizon*, 9 (5), pp. 1-6, 2001, doi: 10.1108/107481201110424816.

and self disciplined with great persistence and commitment”³². Kim and Bonk warn that use of technology in the online classroom does not necessarily guarantee success, and warn against technology overload, which could result in bored students dropping out of online classes³³. Bao (2020) suggests a deep-learning approach, which combines an offline self-learning phase with an online teaching phase. In the offline self-learning phase, the students should be required to read course-related literature and prepare other related assignments before the class. In the online teaching phase, teachers should organize discussion sections, allowing students to exchange opinions and ideas based on the reading³⁴. Pondering over the meaning of true learning and teaching more two decades before the covid-19 crisis, Noam (1996) concludes that “[t]rue teaching and learning are about more than information and its transmission. Education is based on mentoring, socialization, interaction and group activity.”³⁵

The future: Towards diversification and blending

Experimentation with remote teaching has also increased the demand for open educational resources (OERs). These are “learning materials that are openly licensed, which means the copyright-holder has published the material on the internet under a Creative Commons (CC) license that allows other to retain, reuse, revise, remix or redistribute [...] these materials”³⁶. OERs are recognized as “an invaluable educational resource for institutions and faculty in every region”³⁷. Coursera and MOOC are educational platforms that offer most of the content free of charge. They have multiple benefits. Compared to synchronous online learning, they allow learners more flexibility, global access, and free choice of levels and

³² Qi Li and M. Akins, "Sixteen myths about online teaching and learning in higher education: Don't believe everything you hear", *Tech Trends*, 49, 2005, p. 55.

³³ K.-J. Kim and C. J. Bonk, "The Future of Online Teaching and Learning in Higher Education: The Survey Says...", *Educause Quarterly* Number 4, 2006, p. 22.

³⁴ Bao, *op. cit.*, p. 115.

³⁵ E.M. Noam, (1996), Electronics and the dim future of the university. *Bulletin of the American Society for Information Science and Technology*, 22(5), 1996, p. 9, doi:10.1002/bult.24.

³⁶ J. Van Allen and S. Katz, "Teaching with OER during pandemics and beyond", *Journal for Multicultural Education*, Vol. 14 No. 3/4, 2020, p. 210.

<https://doi.org/10.1108/JME-04-2020-0027>.

³⁷ K. Shigeta et al., "A survey of the awareness, offering, and adoption of OERs and MOOCs in Japan", *Open Praxis*, 9(2), 2017, p. 196.

instructors³⁸. Some of the courses allow students enrolled in one university to take courses at a different university and benefit from exchange programs and credit transfer systems³⁹. Ewing notes that Coursera recorded a 644 percent year-by-year increase in March 2020⁴⁰. However, Shigeta et al. (2017) point out that, compared to the high awareness and adoption of OERs and MOOC in the North America or the U.K. (around 40 percent), the adoption rate across Japanese universities is rather low, at around 14 percent⁴¹. Van Allen and Katz (2020) stress that OERs are valuable not just because they lead to maximizing student engagement and learning experiences, but also because they ensure equal access to learning and thus contribute to levelling out the social disparities among learners⁴². Although OERs have been used at NUCB in language and business courses well before the covid-19 pandemic, their use intensified as teachers were in search of supplementing the “dry” textbook material with new and interactive educational materials. However, to the author’s knowledge, Coursera and MOOC did not feature among the course offerings in either language or business departments at NUCB.

What does the future hold? Discussing the post-covid-19 “new normal” in tertiary education, Ewing (2020) summarizes the views of senior academic leaders in Australia, Bangladesh, Hong Kong, India, Macau, New Zealand, Singapore, Sri Lanka and Thailand. Their opinions converge in favor of a “blended” approach. On the one hand, the pandemic has helped “legitimize” online education by bringing into focus the multiple advantages and benefits. On the other, during the covid-19 crisis, students and teachers have gained renewed consideration and respect for conventional education. Therefore, the post-pandemic, “blended” classroom is expected to be a “flipped” one, where students will enjoy increased learning agency and a wider choice of courses⁴³. Here is hoping that, online or not, students will continue to find learning a life-changing, fulfilling experience.

³⁸ Kang, *op. cit.*, p. 19.

³⁹ Ibidem.

⁴⁰ Ewing, *op. cit.*, p. 39.

⁴¹ Shigeta et al. *op. cit.*, p. 200.

⁴² Van Allen & Katz, *op. cit.*

⁴³ Ewing, *op. cit.*, pp. 41-43.

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PERCEPTIONS AND RESEARCH ON EDUCATION INEQUALITIES: FROM ANCIENT PHILOSOPHICAL THOUGHT TO THE CONTEMPORARY SOCIOLOGICAL APPROACHES

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Abstract: *Equality of opportunity presupposes that no personal characteristic should constitute an obstacle to achieving certain goals. Specifically in the field of education, the ideology of equalizing social opportunities and thus safeguarding a successful outcome to all young people regardless of their social class, gender, religion, ethnicity background or physical and mental disabilities stems from the theories of ancient Greek philosophers. However, this ideology has been mainly elaborated during the second half of the 20th century through the systematic research work undertaken within the academic disciplines of Education, Sociology and Political Sciences. This paper presents the first theoretical approaches to educational inequalities and the most important relevant contemporary research, which led to the formulation of the mainstream view concerning the role of school as a mechanism for safeguarding social justice.*

Keywords: *education inequalities, perceptions, research, justice, ancient philosophy, political philosophy*

1. The approach of social educational inequalities in ancient Greek philosophical thought

In the Platonic dialogue *Gorgias* (487a-488b), the discussion between Socrates and Callicles takes intends to define human value. Socrates claims that in the personality his interlocutor he has found the precious

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Lydia stone, through which he can understand if himself is virtuous. Calicles possesses *knowledge* (episteme) *good will*, *outspokenness*, three qualities that ensure his individual value. *Knowledge* means good understanding of the research subject. *Good will* means that one interlocutor does not want to harm or treat in unfair way the other but instead to improve him, make him a better person through the cognitive process. *Outspokenness* means the courage of opinion, the unreserved critical thinking and its unhindered expression during the philosophical process. If Socrates prevails in the debate or at least seems worthy of the value of his interlocutor, he will conclude in the most emphatic way that himself is worthy. Therefore, virtue, the value of a person, can only be determined or ascertained through the comparison with the others. Virtue as a value presupposes interaction among people, namely human sociability. Virtue is also an educational process, where those involved while interacting with each other benefit regarding their cognitive development and their self-evaluation or hetero-evaluation.

The Aristotelian view lies on the same theoretical line, *always acting in relation to the others*¹, which -as an inescapable condition for the development of virtue- constitutes the essential meaning of virtue and philosophical approach in general. If human beings were not by nature political animals, if their natural social predisposition did not push them into their cultural perspective, there could be no question of interaction, communication or evaluation. Man is by nature a social being and therefore by nature a competitive being, as long as any evaluation is made in relation to the others. Moreover, the socio-political contact among people, their rational communication, determines the meaning of virtue according to the ancient Greek approach of the term. Virtue means excellence, superiority and sharp ability in a given situation. But if there were no interaction between people, if people did not communicate through reasoning, there would be no possibility of comparing them and virtually differentiating them from others. Supremacy in virtue presupposes socio-political interaction. We are virtuous or not, we are superior or inferior in something only when comparing to the others. If interaction or communication disappears, virtue disappears as well.

¹ Cf. Arist. *Nic. Eth.*, 1103b.13-16: οὕτω δὴ καὶ ἐπὶ τῶν ἀρετῶν ἔχει· πράττοντες γὰρ τὰ ἐν τοῖς συναλλάγμασι τοῖς πρὸς τοὺς ἀνθρώπους γινόμεθα οἱ μὲν δίκαιοι οἱ δὲ ἄδικοι. "The same is happening with the virtues. That is, by doing what happens during our relations between us, we become other just and others unjust".

In the continuation of the Platonic dialogue, an attempt is made to determine the main factor of superiority of one person over another. This factor is reason-intelligence². These people who excel in virtue are not the craftsmen, the women or the slaves³ who did not receive proper education in ancient Athens, but the active actors of the political affairs, who with wisdom and determination are able to do what is processed in their mind and impose their will to history⁴. Reason constitutes the element that distinguishes man from other living beings and its maximum development is equivalent to the maximum development of virtue. Just as the eye is virtuous when it sees perfectly, man becomes virtuous when he is in a state of reason⁵. In this sense the concept of axiology (theory of

² Plat. *Gorg.*, 490a: Πολλάκις ἄρα εἶς φρονῶν μυρίων μὴ φρονούντων κρείττων ἐστὶν κατὰ τὸν οὖν λόγον, καὶ τοῦτον ἄρχειν δεῖ, τοὺς δ' ἄρχεσθαι. "Many times an intelligent man is more powerful than thousands of non-intelligent people and he deserves to rule, them to obey". Cf. Vavouras El., *The "Political Man" in Ancient Greece: The philosophical origins of political action* (From Homer to Aristotle), Zitros, 2013, pp. 296-297.

³ Cf. Plat. *Gorg.*, 502d. Cf. A.W.H., Adkins, *Merit and Responsibility: A Study in Greek Values*, Oxford: Clarendon Press., 1960, pp. 244-248. Cf. Pangle Th., "PLATO'S GORGIAS AS A VINDICATION OF SOCRATIC EDUCATION", *Polis The Journal for Ancient Greek Political Thought*, Vol. 10; Iss. 1-2, 1991 / 01, pp. 3-21.

⁴ *Ibidem*, 491a-b: Πρῶτον μὲν τοὺς κρείττους οἷ εἰσὶν οὐ σκοτοτόμους λέγω οὐδὲ μαγείρους, ἀλλ' οἷ ἂν εἰς τὰ τῆς πόλεως πράγματα φρόνιμοι ὦσιν, ὄντινα ἂν τρόπον εὖ οἰκοῖτο, καὶ μὴ μόνον φρόνιμοι, ἀλλὰ καὶ ἀνδρεῖοι, ἱκανοὶ ὄντες ἃ ἂν νοήσωσιν ἐπιτελεῖν, καὶ μὴ ἀποκάμνωσι διὰ μαλακίαν τῆς ψυχῆς. "So first by the terms superior and powerful I do not mean either the shoemakers or the cooks, but those who have acumen in the political process, how the state can be properly governed and not only the prudence characterizes them but also the determination, people able to do what is processed in their mind and not to fall due to mental softness in the face of the difficulties of the circumstances". Cf. A.W.H. Adkins, *Moral Values and Political Behavior in Ancient Greece*, Chatto-Windus, 1972, p. 110.

⁵ Arist. *Nic. Eth.*, 1106a.14-24: Δεῖ δὲ μὴ μόνον οὕτως εἰπεῖν, ὅτι ἔστις ἀλλὰ καὶ ποία τις. ῥητέον οὖν ὅτι πᾶσα ἀρετὴ, οὗ ἂν ἡ ἀρετὴ, αὐτὸ τε εὖ ἔχον ἀποτελεῖ καὶ τὸ ἔργον αὐτοῦ εὖ ἀποδίδωσιν, οἷον ἡ τοῦ ὀφθαλμοῦ ἀρετὴ τὸν τε ὀφθαλμὸν σπουδαῖον ποιεῖ καὶ τὸ ἔργον αὐτοῦ· τῆ γὰρ τοῦ ὀφθαλμοῦ ἀρετῆ εὖ ὁρῶμεν. ὁμοίως ἡ τοῦ ἵππου ἀρετὴ ἵππον τε σπουδαῖον ποιεῖ καὶ ἀγαθὸν δραμεῖν καὶ ἐνεγκεῖν τὸν ἐπιβάτην καὶ μείναι τοὺς πολεμίους. εἰ δὴ τοῦτ' ἐπὶ πάντων οὕτως ἔχει, καὶ ἡ τοῦ ἀνθρώπου ἀρετὴ εἴη ἂν ἡ ἔστις ἀφ' ἧς ἀγαθὸς ἄνθρωπος γίνεται καὶ ἀφ' ἧς εὖ τὸ ἑαυτοῦ ἔργον ἀποδώσει. πῶς δὲ τοῦτ' ἐστὶν, ἡδὴ μὲν εἰρήκαμεν, ἔτι δὲ καὶ ὧδ' ἐστὶν φανερόν, ἐὰν θεωρήσωμεν ποία τις ἐστὶν ἡ φύσις αὐτῆς. "But we must not say this only in this way, that is, virtue is a permanent element of our character, but also of exactly what quality of element. It is therefore necessary to conclude that every virtue, whatever it is a virtue, makes the thing itself reach its perfect state and leads it to perform in the most correct way the work which is predetermined for it by nature. For example, the virtue of the eye makes perfect the eye and the work that is naturally predetermined for it, because of the virtue of the eye we see well. Likewise the virtue of the horse: it makes the horse both perfect and able

Value, the philosophical study of goodness) is structured in ancient Greek thought. Inequality between people appears as a result of evaluative superiority in the ability of rationalism, while rationalization is directly related to access to the educational process. The more free time one has the better he can develop his cognitive and rational ability, while the less free time one has the less he participates in the educational process and therefore in the development of human virtue. This was exactly the reason for the devaluation-underestimation of craftsmen in the ancient Greek reality. It was not the manual labour that underestimated per se but the lack of free time that resulted from it. Craftsmen were doomed to a condition of imperfection, because they could not devote time to their education and therefore to their completion in terms of human virtue. Even the politician, as he deals with political and social issues, he is unable to reach the maximum degree of human value, because he does not have the appropriate free time that this process of integration requires⁶.

Only the philosopher living on the fringes of political society⁷, in order to be able to maintain his self-sustainability and to participate in the naturally necessary human sociability, can reach a maximum level of free time, thus rational cognitive development and therefore bliss.

We can therefore conclude that according to the Greek philosophical conception, cognitive or educational inequalities stem from the naturally given difference of people in terms of reasoning and virtue. Moreover, these inequalities are intensified by the lack of free time, which becomes an obstacle to the development of rationality and to human integration. Education or virtue are captives of the interdependent factors of rationality and leisure. The evaluation of people is based on the development of reasoning, but before we talk about reasoning we must take into account the social barriers, such as social class or income⁸, which

to run and hold the rider on it and stay in its place to face the enemies. If this happen in every case, then the virtue of man will be the permanent element of his character because of which man becomes virtuous and because of which he will perform in the right way the work that is naturally predetermined for him. However, we have already analyzed how this will be done, but it can also become apparent in the following way, that is, if we investigate what kind the nature of human virtue is".

⁶ Ἀριστ. *Ἠθ. Νικ.* 1177b.4: *ἡ εὐδαιμονία ἐν τῇ σχολῇ εἶναι.* 1177b.12: *ἔστι δὲ καὶ ἡ τοῦ πολιτικοῦ ἀσχολος.*

⁷ *Ibid.*, 1178a.6-8: *καὶ τῷ ἀνθρώπῳ δὴ ὁ κατὰ τὸν νοῦν βίος, εἴπερ τοῦτο μάλιστα ἀνθρώπος. οὗτος ἄρα καὶ εὐδαιμονέστατος.*

⁸ M.T. Huber, „Value, Nature, and Labor: A Defense of Marx”, *Capitalism Nature Socialism*, 2017, pp. 1-14.

may exclude someone from the education process and the achievement of virtue.

2. Social educational inequalities in the 20th century: perceptions and research

Despite the in-depth approaches of the eminent Greek philosophers, social educational inequalities have become increasingly topical during the second half of the 20th century, while its aspects have been analyzed mainly in the academic disciplines of Education and Sociology. In this context, the concept of opportunity came to the centre of attention, which in education sphere was considered to be achieved only under the condition that an individual-student faces no insurmountable, irrelevant obstacles to the implementation of his/her educational goal. These obstacles involve uneven distribution of academic resources, including school funding, qualified teachers, books, technologies and socially excluded, disadvantaged and oppressed communities.

However, what mainly captured the interest of theoretical and empirical sociologists of education was the role of family's socioeconomic status to the shaping of students' academic performance, in the wider context of delving into the role of school as a mechanism for selecting and showing talent and for contributing to social and economic mobility. American sociologists in the 1930s concluded that the school favors children of middle and upper socio-economic strata⁹, which perpetuates an unjust situation of non-privileged students to find severe difficulties and obstacles in their personal social economic development; Thus, family and school become the most important producers of a central mechanism of social selection and distribution of people in hierarchically structured social strata.

After World War II, within the cold-war climate of intense competition between the western and eastern world, both in the US and in Europe education was linked to the economy as a keystone for growth, technological progress and innovation, and as an investment in professional rehabilitation¹⁰. This orientation, led to the strengthening of

⁹ E., Hollingshead, *Elmtown's Youth: The impact of social classes on adolescents*, New York: Science Editions, 1949; R.S. Lynd, & M. Lynd, *Middletown in transition: A study of cultural conflict*. New York: Harcourt, Brace, 1937; D.L. Warner, „Formal Education and the Social Structure”, *Journal of Educational Sociology*, 9, 1936, pp. 524-531.

¹⁰ A.H. Halsey, J. Floud & A.C. Anderson, *Education, Economy and Society*, New York: The Free Press, 1964.

social demand for the expansion of education in order to exploit potential talents deriving from weaker social strata, a large part of which until then restricted their studies to a low level of formal education. As a result, educational policy orientated to provide equal opportunities and favor the use of human capital to promote economic growth¹¹, while acknowledging school as the main means of the division of individuals into different social levels.

It was the time when it started to become generally accepted that the design and implementation of education policy of equalizing opportunities should be supported and guided by scientific research, which reached its peak due to the generous state funding of research companies or self-employed researchers¹² and also due to the implementation of interdisciplinary collaboration. In particular, sociologists of education focused on the study of inequalities in school performance, access to higher education and the opportunities offered for social and occupational mobility in relation to young people's origin, socio-economic background, family status and the gender. In this context, their main concern was the examination of the role of the school in the division of social positions and its power as a mechanism of reproduction of the social classes.

In terms of the role of family background, the first two research studies were published in 1946 by Gough and a year later by Boalt. Gough (1946) tested 127 11-year-old American students, revealing significant correlations ($r = 0.30$) between their socioeconomic status and their grades¹³. Boalt (1947) in a vast sample of 4,895 students aged 9 to 17 in Stockholm found that their entrance from primary to secondary education showed a statistically significant positive correlation with social class ($r = 0.47$) and family income (0.45).¹⁴

However, the first really remarkable study was the Crowther report (1959), published by the Central Advisory Council for Education, which

¹¹ G.S. Becker, *Human Capital*, New York, 1975; T.W. Schultz, *The Economic Value of Education*, New York, 1963.

¹² W.B. Brookover & E.L. Erickson, *Sociology of Education*, Illinois: The Dorsey Press, 1975.

¹³ H.G. Gough, „The relationship of socio-economic status to personality inventory and achievement test scores”, *The Journal of Educational Psychology*, 37 (9),1946, pp. 527-540.

¹⁴ G. Boalt, *Skolutbildning och skolresultat for barn ur olika samhallsgrupper i Stockholm*, Stockholm: Norstedt, 1947.

was based on two national surveys of English 15-18 year olds. According to the findings, financial hardship was a significant factor in dropping out of school. On school leaving ages, the survey reported that 38% of the sons of the professional and managerial classes stayed till 18+ compared with 9% unskilled manual workers'; 40% of professional and managerial sons left before 17 compared with 81% manual workers. The survey concluded that 'a majority of the sons of professional people go to selective schools, but only a minority of manual workers' sons do so'. 'A non-manual worker's son is nearly three times as likely to go to a selective school as a manual worker's'.¹⁵

The same Council, under the chairmanship of Lady B.H. Plowden, published in 1967 an advisory report into primary education and progression to the secondary phase. The study of a sample of 3,000 students from 107 schools in the UK aimed, among others, to identify factors related to academic performance. It was founded that parental attitudes had most significant contribution. Five years later, Jencks (1972), using data from a number of large scale studies and from an analysis of sets of path regression models, generated a number of findings. More specifically, he calculated that family income is related to the learning outcomes of children ($r = 0.35$). This means that the score of children whose fathers have high-status professions is on average 13 to 15 points higher than that of children whose fathers have low-status occupations. The difference between these two groups decreases under the influence of family income, but remains significant, and becomes more apparent in language-speaking ability and less in mathematical skills.¹⁶

Sewell & Shah's study of a randomly selected cohort of 10,318 Wisconsin high school seniors, correlational, path, and cross-tabular analyses showed that socioeconomic status, intelligence and parental encouragement all have substantial independent relationships to college plans of males as well as of females and that neither intelligence nor parental encouragement-individually or jointly-can completely account for social class differences in college plans. Parental encouragement appears to have its strongest effect on the college plans of males and females who score relatively high on intelligence and come from families

¹⁵ Central Advisory Council for Education, *The Crowther Report*. London: Her Majesty's Stationery Office, 1959.

¹⁶ B. Plowden, *Children and their Primary Schools* (Plowden Report), Institute of Education, University of London, 1963.

occupying relatively high socioeconomic position. Also, parental education affects children's academic performance, while 92% of highly educated parents (comparing to 67,4% of law-educated parents) encouraged the academic progress of their children¹⁷.

However, the most influential and controversial study, which was considered a landmark in policy research, was published by the US Government in 1966 under the title *Equality of Educational Opportunity* and was directed by sociologist James Coleman. The "Coleman Report" was based on an extensive survey of educational opportunity (the national sample included almost 650,000 students and teachers in more than 3,000 schools). Its most important finding was that variations in school quality showed little association with levels of educational attainment, when students of comparable social backgrounds were compared across schools. Differences in students' family backgrounds, by comparison, showed a substantial association with achievement. Contrary, differences in the quality of schools and teachers had a small positive impact on student outcomes. Thus, it was concluded that any policy of equalizing opportunities within the school by offering equal opportunities to members of different social groups, who are very unequally prepared by their family environment to benefit from opportunities offered, could not bring significant results.¹⁸

These results raised great controversy, as many scholars did not understand how the variables associated with the school itself would have only little impact on academic performance. Thus, many were motivated to conduct studies aimed at corroborating or refuting Coleman's hypothesis. However, the majority of the studies showed similar results. Indicatively, White, who conducted the first meta-analytic review on almost 200 studies before 1980, showed a positive correlation between socioeconomic status and academic performance with an average of 0.35 and a median of 0.25.¹⁹ Sirin conducted a replica of White's meta-analysis to see whether socioeconomic status achievement correlation had changed since White's initial review was published. Specifically, he reviewed more than 70 studies published between 1990 and 2000. The sample included

¹⁷ W.H. Sewell, & V. Shah, „Social class, parental encouragement and educational aspiration“, *American Journal of Sociology*, 73, 1968, pp. 559-572.

¹⁸ J.S. Coleman, *Equality of educational opportunity*, Washington DC: US Government Printing Office, 1966.

¹⁹ K. White, „The relation between socioeconomic status and academic achievement“, *Psychological Bulletin*, 91, 1982, pp.461-481.

101,157 students, 6,871 schools, and 128 school districts gathered from 74 independent samples. The results showed a medium to strong socioeconomic status–achievement relation, slightly decreased compared to White’s results, while the average was 0.29 and the median 0.24.²⁰

The positive association between family background and children’s achievement is universal as shown by a plethora of empirical studies²¹. In 2015 the *Organisation for Economic Co-operation and Development* launched a triennial survey of 540,000 15-year-old students in 72 countries known as the “Programme for International Students Assessment”, or PISA. As far as equity in education is concerned, this survey found that poorer students are 3 times more likely to be low performers than wealthier students, and immigrant students are more than twice as likely as non-immigrants to be low achievers.

Under this proven reality, scholars and policy makers around the world set a common goal to narrow the achievement gap in the name of social justice, economic growth and social cohesion and restore equality of opportunities. Therefore, the arising question is how this gap can be effectively managed. In the second half of the 1960s, following empirical

²⁰ S.R. Sirin, „Socioeconomic Status and Academic Achievement: A Meta-Analytic Review of Research”, *Review of Educational Research*, 75 (3), 2005.

²¹ J. Blanden, P. Gregg & S. Machin, *Changes in Educational Inequality*, The Centre for Market and Public Organisation, UK: University of Bristol, 2003; M.E. Ensminger, & K.E. Fothergill, „A Decade of measuring SES: What it tells us and where to go from here”, In Bornstein & Bradley (Eds.), *Socioeconomic status, parenting and child development*, Mahwah: Lawrence Erlbaum Associates, 2003, pp.13-27; K. Marjoribanks, & Y. Kwok, „Family capital and Hong Kong adolescents’ academic achievement”, *Psychological Reports*, 28, 1998, pp.33-46. J. Wei, P. Loyalka & Y. Song, „Family background as a factor on giving up the opportunity to go to college in China”, *European Journal of Higher Education*, 1 (4), 2011, pp. 382-395; S. Manchin & A. Vignolesse, „Educational Inequality: The Widening Socio-Economic Gap” *Fiscal Studies*, 25 (4), 2004, pp.107-128; R. Onzima, *Parents’ socio-economic status and pupils educational attainment. Case study of St. Jude primary school in Malabatown Council*, Uganda, 2019; M.A.Y. Alkhutaba, „Impact of the Economic and Social Factors on the Academic Achievement of Secondary School Students: A Case Study of Jordan Excellence International”, *Journal of Education and Research*, 1 (4), 2013, pp. 262-272; S. R. Ghazi, K. Nawaz, S. Shahzad, G. Shahzada & M. Rukhsar, „Relationship between Parents’ Socio-Economic Status and their Children Academic Performance”, *International Review of Social Sciences and Humanities*, 5 (2), 2013, pp. 58-65; D. Kiritsis & S. Papadopoulou, „The impact of parents’ socioeconomic status, occupation and level of education to the educational and academic development of their children”, *Educational Review*, 51, 2011, pp. 121-139; C. Qishan, K. Yorou, G Wenyang & M. Lei, „Effects of Socioeconomic Status, Parent–Child Relationship, and Learning Motivation on Reading Ability”, *Frontiers in Psychology*, 9, 2018.

studies which showed that not all individuals, groups or ethnic groups were given equal access, relative theories were formulated that regardless of their social class, gender, ethnicity background or physical and mental disabilities children had the inalienable right not to be denied access to schools. Under these converging views and conclusions among social scientists, in 1965 the Elementary and Secondary Education Act (ESEA) was signed. This law, which was a cornerstone of President Johnson's "War on Poverty"²², brought education into the forefront of the national assault on poverty and represented a landmark commitment to equal access to quality education. Its purpose was to provide additional resources for vulnerable students. It offered new grants to districts serving low-income students, federal grants for textbooks and library books, created special education centers, and created scholarships for low-income college students. The law also provided federal grants to state educational agencies to improve the quality of elementary and secondary education.

The government reauthorized the act every five years since its enactment. In the course of these reauthorizations, a variety of revisions and amendments have been introduced. In 2001, with strong bipartisan support, Congress passed the "No Child Left Behind" Act²³. This reauthorization required increased accountability from schools both from the teachers and from the students. Yearly standardized tests measured how schools were performing. By promoting accountability for the achievement of all students, NCLB played an important role in protecting the civil rights of the country's at-risk students. In this context, this federal law provided money for extra educational assistance for poor children in return for improvements in their academic progress and incentives to reward schools showing progress for students with disabilities. It sought to narrow the class and racial achievement gap by creating common expectations for all. Thus, it required schools and districts to focus their attention on the academic achievement of traditionally under-served groups of children, such as low-income students and students of major racial and ethnic subgroups or those who speak and understand limited or no English. Its basic context in which every reform was managed was the deep and unconditional respect of the right of children to education by

²² M. McLaughlin, *Evaluation and reform: The Elementary and Secondary Education Act of 1965*, Title I. Cambridge, Massachusetts: Ballinger Publishing Company, 1975.

²³ R. Simpson, P. Lacava & P. Sampson-Graner, „The No Child Left Behind Act: Challenges and Implications for Educators”, *Intervention in School and Clinic*, 40 (2), 2004, pp. 67-75.

providing access to formal education in three dimensions: It means that education must be available to all without discrimination, in law and in fact physically accessible and economically accessible.

In 2012, and with strong state and local consensus that many of NCLB's outdated requirements were preventing progress, the Obama Administration began offering flexibility to states from some of the law's most onerous provisions. The flexibility required states to continue to be transparent about their achievement gaps, but provided schools and districts greater flexibility in the actions they take to address those gaps. Finally, in 2015, President Obama signed the "Every Student Succeeds Act" replacing the much-criticized No Child Left Behind Act. Although ESSA retained the annual standardized testing requirements from NCLB, the law moved the federal accountability aspect to the States. The State, in turn, still submits an accountability plan to the Education Department, however ESSA allows for local educational agencies may apply for subgrants for local accountability plans²⁴.

These initiatives and developments are consistent with the widespread agreement among academics, development organizations and governments about the urgency of reducing inequality. Despite significant efforts, research shows that still poor and low SES children perform significantly worse than their middle-class peers on many indicators of academic success such as: test scores, grade retention, course failures, high school graduation rate, high school dropout rate and completed years of schooling. However, the PISA (2015) essay concluded that some countries did a better job of managing to narrow the inequality gap without sacrificing performance. They managed to do so, because they a. plotted a clear strategy to improve the education experience for all students and narrow inequality gap, b. held to equally rigorous standards for all classrooms, c. put a focus on teachers as a central force for change in the education system, d. equalize the share of resources among all school systems and e. paid special attention to at-risk schools and districts to monitor and ensure major progress.

In addition to the above conclusion, and under similar theoretically orientated direction, Blanden & McNally identify two approaches to

²⁴ L. Darling-Hammond, S. Bae, M. Chann, L. Lam, C. Mercer, A. Podolsky, & L.E. Stosich, *Pathways to New Accountability Through the Every Student Succeeds Act*, Learning Policy Institute; L. A. Sharp, *ESEA Reauthorization: An Overview of the Every Student Succeeds Act*, *Texas Journal of Literacy Education*, 4 (1), 2016, pp. 9-13.

narrow the educational inequality gap. The first is to pursue redistributive policies and remove institutional mechanisms that discriminate against low income people. The second is to use the most effective educational policies to directly improve the achievements of disadvantaged children. These policies include high quality early-years provision, programmes to improve school resources, postponing ability-tracking to a later age, and measures to give schools autonomy.²⁵

Of course, despite significant and well-intentioned efforts, the commonly found and substantial association of family background with educational outcomes still exists. Differences in achievement are associated with students' background characteristics and, while the most salient background variables may differ across education systems, a substantial amount of the variance in student achievement is normally explained by family socioeconomic status. Whilst educational participation and attainment is still accomplished mainly by people from higher relative to lower backgrounds, more needs to be done to tackle educational inequalities.

3. Discussion

In our era, especially since the 1960s, issues of equal opportunities in education as well as issues concerning the role of school as a mechanism for selecting and showing talent came at the centre of the research interest of sociologists, educators and political scientists. Scholars from these fields through their theories and research displayed profound and unconditional respect of the right of all children -without discrimination- to education. Today there is a wide consensus on one basic factor which measures the quality and effectiveness of formal education: it is that academic outcomes are not statistically affected by family background factors (namely income, occupation and level of education) or are statistically irrelevant of their race, gender, religion and sexuality. This constitutes an indispensable condition which derives essentially from a concept of equality before the law; it is understood as an anti-discrimination principle, in the sense that equality of opportunity requires the removal of formal obstacles -referring to ascriptive characteristics- which prevent individuals from reaching their potential causing a lack of intergenerational mobility. This consensus, also, derives from the acknowledgment of a key goal of education, namely to

²⁵ J. Blanden, & S. McNally, *Reducing Inequality in Education and Skills: Implications for Economic Growth*. European Expert Network on Economics of Education, 2015.

make sure that every student has a chance to excel, both in school and in life. Increasingly, children's success in school determines their success as adults, determining whether and where they go to college, what professions that they enter, and how much they are paid²⁶.

However, despite this global consensus, extensive research has conclusively demonstrated that even today children's social class is one of the most significant predictors of their educational success. Whereas much is known about the determinants and mechanisms that drive early skills gaps among children of different backgrounds, the failure to narrow social-class-based skills gaps from one generation of students to the next calls for further analysis to determine the degree of influence these factors have and how interventions employed in recent years to address these factors have or have not worked and why.

Before one delves into the reasons that the association of family background to educational outcomes remains significant, it must be assessed whether the absence of such an association is realistically achievable. More specifically, sociologically approached, education can be understood as a social institution, which reflects the basic characteristics of society. Thus, its structure, purposes and priorities cannot be seen in isolation from the particular features of the social formation in which it operates. But every social formation has its own structure, organization, hierarchy, modus operandi and culture and of course in it social stratification exists according to criteria such as economic status, prestige, power-influence, charity work and contribution. It is expected that people from the middle or upper social strata wish to maintain the privileges they enjoy in society by bequeathing them to their descendants, thus reproducing the social domination of the privileged and the origin. These people have realized the role of education towards the implementation of such a desire. Thus, they invest money and devote personal time to enhance the cognitive and educational level of their children. On the contrary, although for the majority of the lower-middle class people education is considered as the key to their children social progress, nevertheless their financial weakness and educational inadequacy are often insurmountable obstacle to the proper pedagogical guidance of their children. As a result, these children have only little chances to outreach their parents' socio-economic stratum. Therefore, social inequalities must

²⁶ D.T Burkam & V.E. Lee, *Inequality at the starting gate. Social background differences in achievement as children begin school*, Economic Policy Institute, 2002.

first be eliminated, as a precondition for the elimination of any kind of educational inequality•but this is something that the current form and structure of societies does not allow. Under this assumption, the implementation of equal opportunities in education that will lead academic results regardless of social background is only a chimera. Education and social mobility do not stem only from the lack of equal opportunities, because even if typically equal opportunities existed, education performance would still be directly related to social background. Of course, the implementation of redistributive policies could reduce the inequality of performance in children from different socio-economic backgrounds, but without succeeding in eliminating the influence of family. After all, such a holistic result would run counter to common sense, as it would ignore the objectively large amount of educational time parents spend interacting with their children.

On this basis, questions are reasonably raised regarding the role of the school against the strong influence of nature and the even stronger family environment. In other words, is the school neutral towards the social differences of its students, free from responsibility, as their learning behavior and academic performance are to a very large extent prescribed? Certainly it cannot intervene in the biological and social characteristics of students, which make them unequal from the beginning. Adopting the strategy of equal treatment of all, the educational system which addresses a unified policy without discrimination and exceptions (common curricula, subjects, textbooks) provides a sense of equal treatment. However, addressed to children from different family background, in practice it validates the initial inequalities. Almost half a century ago, Dobzhanaky, realizing the diversity of human beings, had assessed the equality of opportunities as necessary, but clarified that this does not imply similarity in their treatment²⁷, on the contrary, equality should be perceived only in terms of safeguarding equal opportunities to each individual in order to understand and develop his or her special individual abilities. Thus, under the undeniable assumption that people are born with the same moral and political rights, but are simply endowed with different-unequal abilities and qualifications and come from different socio-economic background, the essential contribution of the school is to

²⁷ T. Dobzhanaky, *On Genetics, Sociology, and Politics. Perspectives in Biology and Medicine*, 1968, p. 554.

equip them so that they are able to meet the demands and challenges of society at all levels.

In conclusion, the equality of educational opportunities to all students is not in itself a sufficient condition to safeguard social justice education, as, despite their provision by the State, the reproduction of social stratification is still reflected in the school evaluation scale and justice can not only be considered as equality in the application of rules and policies, but also as equality of results, namely without the statistically significant intervention of any external demographic characteristics. However, justice in education at such a level falls into the realm of a romantic fantasy, as it presupposes the theoretical idealization of the basic structure of society or the radical reconstruction of its *modus operandi*, and the consequent creation of a classless society, where each student will succeed solely on the basis of his/her merit, potential and diligence without the influence of family background. Therefore, further research needs be developed in order for education to serve the role as “the great equalizer” to increase opportunity and promote social mobility, namely to advance children from less well-off backgrounds in order to break generational cycles of deprivation and encourage economic growth²⁸.

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²⁸ J. Blanden, P. Gregg & S. Machin, *Changes in Educational Inequality*. The Centre for Market and Public Organisation, UK: University of Bristol, 2003.

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GREEK STUDENTS' CONCEPTUALIZATION OF SEXUAL DIVERSITY AND SEXUAL MINORITIES. IMPLICATIONS FOR EDUCATIONAL POLICIES AND PRACTICES

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Abstract: *Although sexual and gender diversity is part of human experience, a number of people do not identify themselves within heterosexual or cisgender terms. Often these individuals have been victims of harassment and/or abuse. Cases of homophobic and transphobic bullying in schools are being reported in alarming frequency. In this work, I discuss Greek students' (11-15-year-old) conceptualizations and understandings on sexual and gender diversity and sexual minorities. Data come from students' anonymous questions gathered as part of short sexuality education courses. According to the analysis of data, students in Greece conceptualize sexual diversity in terms of: health and reproduction, morality, pleasure and normativity. Sexual difference and diversity are often seen as a matter of choice or abnormal. In the light of the findings, implications for educational policies that encourage inclusive practices, proper and systematic sexuality education courses and teachers' training are discussed.*

Keywords: *sexual diversity, LGBTQI, sexuality education, Greece*

Introduction

Sexuality is part of human nature. Forming our sexual identity is an endeavor of variable degrees of difficulty for everyone. Nevertheless, the way we perceive ourselves as sexual beings becomes an important aspect of our personality. Sexual identities define and seclude at the same time. They project our personality or societal interactions but also how societies regulate sexuality, permitting or obstructing its expression and difference (Fisher & Kennedy¹, Seidman, Fischer & Meeks², Weeks³). Sexual

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¹ E.S. Fisher & K.S. Kennedy, *Responsive School Practices to Support Lesbian, Gay, Bisexual, Transgender, and Questioning Students and Families (School-Based Practice in Action Series)*, New York: Routledge, 2012.

² S. Seidman, N. Fischer & C. Meeks, (Eds.), *Introducing the New Sexualities Studies*, 2nd edition. Routledge: London and New York, 2011.

³ J. Weeks, *The language of sexuality*, London and N. York: Routledge, 2011.

orientation is a way to define, categorize, and interpret the personal feelings of sexual attraction. Sexual orientation for many years was considered to be a rather straightforward classification between hetero and homosexuality, nevertheless, contemporary views understands human sexuality as a complicated experience that could never be classified in an absolute way. Perceptions of human sexuality, in addition, are incomplete without taking into account the biological sex and societal gender, as well as the relationship between them (Preves⁴, Seidman et al. ⁵, Weeks ⁶), whereas heteronormative assumptions and societal expectations consider heterosexuality as the established and accepted mode of sexual orientation, expecting cultural, social and legal structures to maintain and support such notion (Ingraham⁷, Murray⁸).

In this paper I discuss Greek students' (11-15 years old) perceptions of sexual diversity and sexual minorities. The terms sexual minorities and LGBTQI are used here interchangeably to refer to individuals who do not identify as heterosexual or cisgender.

It is much easier to dismiss, or even attack what you do not understand or know. Incidences of homophobic and transphobic harassment and bullying in the school settings all over the world are documented in a number of research studies by international organizations such as: UNESCO⁹, Stonewall¹⁰, WHO¹¹.

⁴ S.E. Preves, „Unruly bodies. Intersex variations of sex development“, In S. Seidman, N. Fischer & C. Meeks (Eds.), *Introducing the New Sexuality Studies*, (2nd Edition), (pp. 127-133), Routledge: London and N. York, 2011.

⁵ S. Seidman, N. Fischer & C. Meeks, (Eds.), *op. cit.*

⁶ J. Weeks, *op. cit.*

⁷ R. Ingham, 'We didn't cover that at school': education against pleasure or education for pleasure?', *Sex Education. Sexuality, Society and Learning*, Volume 5, 2005 - Issue 4, pp. 375-388.

⁸ O. Murray, *Queer inclusion in teacher education. Bridging Theory, Research and Practice*, London and New York: Routledge, 2015.

⁹ UNESCO, *Good Policy and Practice in HIV and Health Education - Booklet 8: Education Sector Responses to Homophobic Bullying*, 2012,

<http://unesdoc.unesco.org/images/0021/002164/216493e.pdf>, (accessed 18.01.2021). UNESCO, *International technical guidance on sexuality education. An evidence-informed approach*, Revised Edition. UNESCO Paris, 2018,

<http://unesdoc.unesco.org/images/0026/002607/260770e.pdf>, (accessed 25.01.2021).

¹⁰ J. Bradlow, F. Bartram, A. Guasp & V. Jadva, *School Report - The experiences of lesbian, gay, bi and trans young people in Britain's schools in 2017*, University of Cambridge, Stonewall, 2017,

Greece is not considered to be a very friendly and tolerant place for LGBTQI individuals, either. The Global Divide (Pew Research Center¹²), a survey among secular and affluent countries, shows that 53% of the Greek population accept homosexuality. The Greek Ombudsmen at the same year, reported an increase in incidences of racist violence, particularly in schools, towards marginalized people of minority status, LGBTQI individuals among them. According to an on-line survey, 101 incidences of homophobic violence and harassment of various types have been reported within a few months, by 140 victims, involving approximately 200 perpetrators (Theofilopoulos¹³). Finally, 76% among LGBTQI people in Greece state that they are always or often hiding, or disguising, their sexual orientation or gender identity while being in school (FRA¹⁴).

The negative opinion of university students in Greece towards sexual minorities is additionally documented. Those negative opinions were being correlated with high degrees of religiosity as well as among those who reported not knowing any homosexual person, whereas, men hold the most negative opinions as compared to women (Grigoropoulos¹⁵). Over 70% of Greek university students, in another research study, agree on the need to protect LGBTQI individuals from abuse, as well as, to protect their human rights. However, just 28% of them support unconditionally LGBTQI individuals' right to get married and even less (15%) the right of child adoption by same sex couples (Gerouki¹⁶).

http://www.stonewall.org.uk/sites/default/files/the_school_report_2017.pdf, (accessed 02.02.2021).

¹¹ K. Blondeel, S. Vasconcelos, C. García-Moreno, R. Stephenson, M. Temmerman & L. Toskinb, "Violence motivated by perception of sexual orientation and gender identity: a systematic review", 2017, *Bull World Health Organ* 2018; 96:29-41E.

¹² Pew Research Center, 2013. *The Global Divide on Homosexuality*, p.1 <http://www.pewglobal.org/2013/06/04/the-global-divide-on-homosexuality/>, (accessed 24.01.2021).

¹³ T. Theofilopoulos, [Homophobic and transphobic discrimination in Greece. The report of the project "Say it to us" 01/04/2014- 30/11/2015]. Colour Youth LGBTQ Community of youth. Athens, 2015, (Greek edition), <http://colouryouth.gr/wp-content/uploads/2016/06/Ekthesi-Ergou-Pes-to-S-emas.pdf>, (accessed 17.01.2021).

¹⁴ FRA, *EU LGBT Survey - European Union lesbian, gay, bisexual and transgender survey. Main results*, 2014, <http://fra.europa.eu/en/publication/2014/eu-lgbt-survey-european-union-lesbian-gay-bisexual-and-transgender-survey-main>, (accessed 24.01.2021).

¹⁵ I. Grigoropoulos, *Predictors of Greek students' attitudes towards lesbians and gay men. Psychology & Sexuality*, 1(2), 2010, pp. 170-179.

¹⁶ M. Gerouki, *Sexual minorities. University students' opinions on LGBT people*. 3o Greek Scientific Conference IAKE, Conference Proceedings, Vol C, 2017, pp. 99-108 (Greek edition).

A qualitative study among educators in Greece described a rather negative school environment for those students who exhibited non-stereotypical and gender non-conforming behaviour in the primary school. Those children often were subjected to negative comments and other harassing behaviours by their schoolmates. Teachers in that study reported being unable or indifferent to deal with such incidences (Gerouki¹⁷).

The discussion of sexual diversity in school settings is usually integrated in a wider frame of comprehensive sexuality education. Comprehensive sexuality education can be defined as a curriculum-based, age-appropriate approach that tackles cognitive, emotional, physical and social aspects of sexuality, aiming in providing knowledge, create skills and discuss values that promote students' health and well-being, within a larger frame of understanding, respecting and protecting human rights throughout their lives (UNESCO¹⁸). Within the Greek educational system, Sexuality and Gender Relationships Education was introduced in 2003 in the primary sector, and a few years earlier in the secondary, as a thematic unit to be taught, optionally, through Health Education interventions and extra-curriculum activities. Although there are some textbooks and other educational materials developed for students of both sectors, few educators are aware that such educational materials exist and even fewer have been trained to use, or use them, in the class. About 3% of the Health Education programs refer to sexuality education interventions (Gerouki¹⁹, 2009).

During the school year 2016-2017 the Greek Ministry of Education introduced the "thematic week" to the lower secondary sector. For one week of spring term normal school days and timetables were interrupted by a range of activities (active learning interventions, discussions and presentations by experts and the like) organized by the school teachers on various subjects, one of which is "gender identities". This particular topic has been met with great scepticism, even strong criticism from a part of the general Greek public, as well as some teachers' unions. Some Church

¹⁷ Idem, „The boy who was drawing princesses - Primary teachers' accounts of children's non-conforming behaviours", *Sex Education*, 2010, 10(4), pp. 335-348.

¹⁸ UNESCO, *International technical guidance on sexuality education. An evidence-informed approach*. Revised Edition. UNESCO Paris, 2018, <http://unesdoc.unesco.org/images/0026/002607/260770e.pdf>, (accessed 25.01.2021).

¹⁹ M. Gerouki, "Innovations" on-hold: Sex Education in the Greek primary schools, *Health Education*, 2009, Vol. 109, No 1, pp. 49-65.

representatives urged parents to abstain their children of such teaching as well (Huffington Post²⁰).

Although health is the aim of sexuality education programs, the fact that sexuality, by its own right, is a complex and highly value driven subject, usually creates frictions in curricula formation and programs' application (Preston²¹, Cameron-Lewis & Allen²², Ollis²³). This becomes more intense in a sexual and gender minority context, as the school is usually shaped as an environment of heterosexual and cisgender normativity (Ferfolja & Ullman²⁴, Preston²⁵, Murray²⁶), thus encourage the formation of conditions that reinforce bias-based harassment and bullying (Poteat, Merish, DiGiovanni & Scheer²⁷). As Forrest²⁸ (p. 114) points out, we will not be able to address bullying and protect individuals belonging to sexual minorities unless we deal systematically with homophobia and sexism.

Nevertheless, this remains still a debatable and difficult endeavour as data of homophobic and transphobic bullying from all over the world indicate. Harming behaviours that can range from minor verbal abuse to serious, even fatal injuries, targeting young people that express themselves, or are perceived as expressing themselves, in a non-stereotypical heterosexual and cisgender manner, are reported in

²⁰ Huffington Post, [How the Ministry of Education thematic week on gender identities became a show.] (2017, February 4th). Huffington post, Greece. (Greek Edition), 2017, http://www.huffingtonpost.gr/2017/02/04/koinonia-thematiki-evdomadapourgeiou-ygeias-_n_14594722.html (accessed 03.12.2020).

²¹ M.J. Preston, 'They're just not mature right now': teacher' complicated perceptions of gender and anti-queer bullying, *Sex Education*, 2016, 16(1), pp. 22-34.

²² V. Cameron-Lewis & L. Allen, „Teaching pleasure and danger in sexuality education”, *Sex Education*, 2010, 13(2), pp. 121-132.

²³ D. Ollis, „Planning and delivering interventions to promote gender and sexuality”, In I. Rivers & N. Duncan, (Eds.), *Bullying. Experiences and discourses of sexuality and gender*, London and New York: Routledge, 2013, pp. 145-161.

²⁴ T. Ferfolja & J. Ullman, „Gender and sexuality in education and health: voices advocating for equity and social justice”, *Sex Education* 17(3), 2017, pp. 235-241.

²⁵ M.J. Preston, *op. cit.*

²⁶ O. Murray, *op. cit.*

²⁷ V.P. Poteat, E.H. Merish, C.D. DiGiovanni & J.R. Scheer, „Homophobic bullying”, In I. Rivers & N. Duncan, (Eds.), *Bullying. Experiences and discourses of sexuality and gender*, London and New York: Routledge, 2013, pp. 75-90.

²⁸ S. Forrest, „Difficult Loves”. In M. Cole (Ed), *Education, Equality and Human Rights*, London and N. York: Routledge-Falmer, 2000, pp. 99-117.

percentages starting from 35% to even 90% in different countries according to a review study by UNESCO²⁹ (pp. 18-19).

Collection and analysis of research material

Although the Greek state shows ambiguous signs about the sexuality education of the student population, children's needs and queries, concerns and questions are manifold and to the point. For a period of five years, the author had the opportunity, through her capacity as an educational advisor and researcher of sexuality education, to organise training seminars for teachers and parents, as well as to discuss issues of sexuality and sexuality education with students of both secondary and primary education (sixth grade), in various regions of Greece. Specifically, briefings between 2012 and 2017 concerned about 120 schools and approximately 2500 students.

With the prospect of a school visit, the classroom teachers discussed with their students about the upcoming meeting with the sexuality educator and encouraged them to write anonymously and without personal "censorship" their questions on issues of sexuality, gender, interpersonal relationships and sexuality education. Providing answers to these questions then became the context of the forthcoming presentation and the subsequent discussion with the students. For five years more than 2000 questions were collected in that manner.

The prior collection of anonymous questions is a way to overcome both the initial reluctance that students may have towards a new person in their classroom, as well as to discuss sensitive issues that are value-driven, such as those of sexuality. The value of anonymity could be debatable, but in this case, it becomes evident that it guarantees freedom of expression while protecting the individual and his/her privacy. For most of the students this had been the first time to discuss sexuality and gender issues in a school setting.

In general students had been very eager to provide questions. Students' questions were related to a wide range of topics such as: genitals, their function, hygiene and protection, reproduction, contraception, STDs, as well as about romantic and sexual relationships, sexual activity, sexual abuse, communication between the sexes and between children and parents on sexuality issues.

²⁹ UNESCO, *op. cit.*

From the larger data pool, those anonymous questions referring to sexual diversity issues have constituted the material for this work. That is, a number of questions, usually two or three in every session, more in secondary, but several in the primary school too, concerned sexual diversity issues. These questions included terms such as: *homosexuality* or *homosexual*, *gay*, *lesbian* and also included words such as *trans* or *sex change*. Sometimes, negative and degrading words were also used, such as: *sissy* or *faggot*.

Thematic analysis, particularly a rich inductive thematic description of the data, was used here, since there was not a specific research question, rather data were emerged by students' spontaneous references on sexual diversity and sexual and gender minorities issues (Ivanski & Kohut³⁰).

Greek students' conceptualizations on sexual diversity

Through the examination of students' questions on sexual diversity and LGBTQI issues, five themes arose: *sexual diversity as a problem of reproduction and health*, *sexual diversity as immorality*, *heterosexuality as normativity*, *the existential dimension of (homo)sexuality*, *(homo)sexuality and the question of pleasure*.

1. Sexual diversity: the problem of reproduction and health

If a woman has sex with another woman can she become pregnant? (primary school). *In terms of homosexuality, how does it affect the mental and physical health of individuals? Is homosexuality dependent on genetic mutations? Is the phenomenon of homosexuality healthy? Is sex change healthy?* (secondary school)

A straightforward connection between sexual activity and reproduction is noticed more often in primary school students' questions. Reproduction is an important aspect of human biology and a source of interest for students. However, questions, such as the first one in this section, reveal essentially students' ignorance of basic knowledge about the human reproductive system. This can be explained by the fact that the reproductive system is discussed in the last chapter of the book of Science for the sixth grade of the Greek primary school, risking omission in many cases, while in the secondary school the corresponding chapter in Biology, is sometimes taught and others not, seeing that it frequently appears or disappears during textbook and curriculum revisions.

Sexual diversity seems to be treated with mistrust by young students, since same-sex relationships do not lead to childbirth. The strict, almost absolute, relation of the notion of "family" with the presence of children, in Greek educational materials, has been highlighted in the past. In a

³⁰ C. Ivanski & T. Kohut, „Exploring definitions of sex positivity through thematic analysis”, *The Canadian Journal of Human Sexuality*, 26(3), 2017, pp. 216–225.

relative study of Greek school textbooks, reproduction appears to be the main justification for marriage, whereas “family” is discussed almost always in the context of “parents with kids” (Gerouki³¹). Those more conservative approaches towards families are manifested to an opinion poll as well. 56% of the Greek population accepts the right of marriage and 30% the right of adoption for same-sex couples. In the same poll 14% of the population considered homosexuality a mental disorder (Focus-Bari³²).

In 1973, scientific knowledge and social pressure led the American Psychiatric Association to delete homosexuality from the Diagnostic Statistical Manual (DSM), whereas, in 1990, the World Health Organization also removed homosexuality from the category of psychological disorders of the International Index of Disorders. However, research evidence indicates that LGBTQI individuals face particular health and well-being challenges such as: substance abuse, suicide or attempt suicide, homelessness, abandon school and so on (Talley et al.³³, Marshal et al.³⁴). The isolation and marginalisation of individuals belonging to sexual minorities, even by their own families (Ryan et al.³⁵, D' Augelli³⁶) is usually a factor contributing to the increase of psychiatric issues or other mental disorders (Sandfort et al.³⁷). Negative impact on the health of LGBTQI individuals are associated with the

³¹ M. Gerouki, „Pushed in the margins: Sex and Relationships in Greek primary textbooks”, *Sex Education* 8(3), 2008, pp. 329-343.

³² Focus-Bari, *Opinion poll on LGBT rights*. 2015, (Greek edition), https://www.focusbari.gr/images/press_releases/LGBT_Barometer_2015_FocusBari.pdf, (accessed 25.01.2021).

³³ A.E. Talley, K.J. Sher, A.K. Littlefield, „Sexual orientation and substance use trajectories in emerging adulthood”, *Addiction*, 2010, 105, pp. 1235-1245.

³⁴ M.P. Marshal, M.S. Friedman, R. Stall, K.M. King, J. Miles, M.A. Gold, „Sexual orientation and adolescent substance use: A meta-analysis and methodological review”, *Addiction*, 2008, 103(4), pp. 546-556.

³⁵ C. Ryan, S.T. Russell, D. Huebner, R. Diaz, & J. Sanchez. „Family Acceptance in Adolescence and the Health of LGBT Young Adults”, *Journal of Child and Adolescent Psychiatric Nursing*, 2010, 23(4), pp. 205-213.

³⁶ A.R. D' Augelli. „Developmental and contextual factors and mental health among lesbian, gay, and bisexual youths”, In A.M. Omoto & H.S. Kurtzman (Eds.), *Sexual orientation and mental health: Examining identity and development in lesbian, gay, and bisexual people*, Washington, DC: American Psychological Association, 2006, pp. 37-53.

³⁷ T.G.M. Sandfort., R. de Graaf, M. Ten Have, Y. Ransome & P. Schnabel P., „Same-Sex Sexuality and Psychiatric Disorders in the Second Netherlands Mental Health Survey and Incidence Study (NEMESIS-2)”. *LGBT Health*, 2014, 1(4), pp. 292-301.

respective high rates of discrimination and marginalisation experienced by these individuals (Clark³⁸).

While sexual orientation or gender identity is not a pathological cause, personal and social difficulties that do not allow for understanding and acceptance of diversity, seem to contribute to the creation of health and well-being problems for LGBTQI individuals. Systematic analysis of the impact of discrimination and harassment to individuals due to sexual orientation and gender identity is part of comprehensive sexuality education. Students' questions additionally draw up on the need to discuss in a thorough manner the legal dimension of the issue of sexual diversity, as the Greek legislation has been adapted to the decisions of the Council of Europe and the European Court of Justice, concerning the elimination of discrimination against sexual minorities. Additionally, in 2015, the Civil Partnership Agreement for same sex couples was voted by the Greek Parliament³⁹.

In any case, the vast majority of students in Greece do not have opportunities to discuss at school such issues contributing to their general lack of knowledge or misinformation.

2. Sexual diversity as immorality

Why is it bad to be gay? (primary school). Is homosexuality right [sic]? What is the reason that many children of our age are being directed towards homosexuality [sic]? (secondary school).

Morality refers to all evaluative judgments that determine whether something is right or wrong, permissible or not. Accordingly, as the examples from above indicate, in this category fall students' questions that used the right or wrong connotations in their ethical sense. Jewish and Christian religious traditions, which have largely shaped the current Western societies, have condemned same-sex sexual relationships. Both in the Middle Ages and Renaissance and due to the close relationship between the church and the state, "sin against nature", through popular laws became a "crime against nature", leading to the marginalisation or even the physical extermination of individuals because of their sexual orientation and or gender identity (Boswell⁴⁰).

³⁸ F. Clark, „Discrimination against LGBT people triggers health concerns“, *The Lancet*, 2014, 383(9916), pp. 500-502.

³⁹ *Governmental Gazette*, [Civil partnership agreement] (Greek Edition), A' 181, Law 4356, Greek Republic, 2015.

⁴⁰ J. Boswell, *Christianity, social tolerance and homosexuality*, Chicago: The University of Chicago Press, 1980.

The demarcation within a religious ethic in the context of public morality is a common feature of various societies in their historical evolution, including the Greek one. Morality is a field that religious beliefs predominately occupy. The strong link between the Greek State and the Church is manifested by the full title of the Ministry of Education which remains: "Ministry of Education, Research and Religion". The official position of the Greek Orthodox Church, which is the dominant, as well as official religion of the country, is opposed to premarital sexual relationships (Kornarakis⁴¹) and condemns homosexuality as perversion. Also, the Church opposes, in general, Western approaches to sexuality education as *teachings about orgasm without fear of pregnancy, sexually transmitted diseases, etc., forces young people to act as stallions, stimulating their fantasies and retreating to society expectations* (Faros⁴² p. 604). The influence of the Church could be recognised in the school curriculum as well. Religion is usually taught two hours weekly in primary and secondary schools, whereas other subjects such as Geography or Biology, for example, retain a single hour status.

The lack of proper sexuality education in accordance with the influential moral teachings by the Church could explain why the majority of the Greek people associate sexual orientation with choice. A minority of the population, 33%, believe that sexual orientation is not a choice of the individual but rather an inherent characteristic (Focus-Bari⁴³). Beliefs, however, are influencing attitudes. As it was found in a study among American and Dutch adolescents, less tolerant attitudes towards gays and lesbians are justified on social norms or religious beliefs (Collier, Horn, Bos & Sandfort⁴⁴).

3. Heterosexuality as normativity

Is it possible for someone who is gay to become a normal person (to love a girl)? Why do some women choose to be with women when the normal thing

⁴¹ I. Kornarakis, „Gender relationships under the prism of Christian anthropology”, In I. Paraskevopoulos et al. (Eds.). *Gender relationships Vol. A.*, (Greek Edition), Athens: Hellenic Letters, 1995, pp. 199-215.

⁴² F. Faros, „Education for eros or eros for education”, In I. Paraskevopoulos et al (Eds), *Gender relationships*, vol. B. (Greek Edition), Athens: Hellenic Letters, 1998, pp. 600-610.

⁴³ Focus-Bari, *op. cit.*

⁴⁴ K.L. Collier; S.S. Horn; H.M.W. Bos, & T.G.M. Sandfort, „Attitudes toward lesbians and gays among American and Dutch adolescents”, *Journal of Sex Research*, 2015, 52(2), pp. 140-150.

would be to be with a man? (primary school). How do people with homosexuality [sic] behave? (secondary school).

Over the centuries, homosexuality has been subjected to social control as it was considered a sin, a crime or an illness. Within this framework heteronormativity is defined as the viewpoint that heterosexuality is the only accepted form of sexuality. Heteronormativity conceptualises and normalises all aspects of heterosexuality while at the same time marginalising or outlawing other human relationships or commitments (Ingraham⁴⁵, Seidman et al.⁴⁶, Murray⁴⁷).

Students that do not fit the stereotypical sexuality and gender expectations often suffer discrimination and harassment in schools as strong data worldwide indicate (UNESCO⁴⁸). However, when schools discuss sexual diversity and include LGBTQI perspectives in curricula and interventions, students perceive their school as a safer environment. On the contrary, within a heteronormative school context, conditions for bias-based harassment and bullying could be facilitated (Poteat et al.⁴⁹, Fisher & Kennedy⁵⁰, Toomey, McGuire & Russell⁵¹). Finally, the positive benefits of strong Gay-Straight Alliances in the school have also been noted for challenging normative attitudes and contributing towards acceptance of sexual diversity (Murray⁵², Poteat et al.⁵³).

The need of Greek students, as expressed in their questions, to "normalise" sexual diversity in a heteronormative framework could be yet another indication of the lack of teaching about sexuality in general and gender and sexual diversity in particular. For challenging normative

⁴⁵ C. Ingraham, „One is not born a bride. How weddings regulate heterosexuality“. In S. Seidman, N. Fischer, and C. Meeks (Eds), *Introducing the New Sexual Studies*, 2nd.ed, London and N. York: Routledge, 2011, pp. 303-307.

⁴⁶ S. Seidman, N. Fischer & C. Meeks, *op. cit.*

⁴⁷ O. Murray, *op. cit.*

⁴⁸ UNESCO, *op. cit.*

⁴⁹ V.P. Poteat, E.H. Merish, C.D. DiGiovanni & J.R. Scheer, *op. cit.*

⁵⁰ E.S. Fisher & K.S. Kennedy, *Responsive School Practices to Support Lesbian, Gay, Bisexual, Transgender, and Questioning Students and Families (School-Based Practice in Action Series)*, New York: Routledge, 2012.

⁵¹ R.B. Toomey, J.K. McGuire & S.T. Russell, „Heteronormativity, school climates and perceived safety for gender nonconforming peers“, *Journal of Adolescence*, 2012, 35(1), pp. 187-196.

⁵² O. Murray, *op. cit.*

⁵³ V.P. Poteat, E.H. Merish, C.D. DiGiovanni & J.R. Scheer, *op. cit.*

expectations, Murray⁵⁴ debates on the need for alternative pedagogies and describes a conceptual framework that interrupts hetero- and cisnormative discourses in the school settings.

4. The existential dimension of (homo)sexuality

Why can a man be with a man and a woman with a woman? Why are some people gay? (primary school). Are you born as a homosexual or is it cultivated over time? (secondary school).

Students' questions often expressed the need to elaborate at a more profound level the concepts of human sexual and gender diversity. Students already in primary school perceive sexual diversity as something that exists but they are unable to explain it. In that sense, some of these anonymous questions could be the expression of personal inquiries as well. The period of puberty (12-20) is the time when the personal identity of youngsters is shaped in its psychological and social dimension. It is also the period that an individual begins to shape moral and critical thinking and develop problem-solving skills. Finally, that is the period in which sexual orientation issues as well as broader sexuality issues, both personal and interpersonal, become dominant subjects of concern to the individual (WHO Regional Office for Europe⁵⁵ p. 24).

Given the need of the student population for information, one would expect these issues to be a fundamental module in the undergraduate program of future teachers, even more so, when teachers themselves often are perceived as actors who normalise heterosexuality (Ferfolja & Ullman⁵⁶). However, this is not the case in Greece. There are only few university departments in the country that offer such seminars or courses which are usually optional and of short duration. The educational system that refuses its pedagogical and scientific role in the discussion of sexuality and difference, or does not provide information on contemporary views on issues of sexual diversity, simply helps to maintain or strengthen false perceptions which in turn, lead to marginalisation, exclusion and violence.

⁵⁴ O. Murray, *op. cit.*

⁵⁵ WHO Regional Office for Europe and BZgA Federal Centre for Health Education. *Standards for Sexuality Education in Europe. A framework for policy makers, educational and health authorities and specialists*, BZgA Cologne. 2010, https://www.bzga-whocc.de/fileadmin/user_upload/WHO_BZgA_Standards_English.pdf, (accessed 03.02.2021).

⁵⁶ T. Ferfolja, & J. Ullman, *op. cit.*

5. (Homo)sexuality and the question of pleasure

How do people with homosexuality feel [sic]? Do lesbians experience the same pleasure? (secondary questions).

Questions regarding both sexual activity and sexual pleasure are very common among students, mainly the ones attending secondary school. It is not strange that sexual pleasure is an issue of interest for adolescents (Koepsel⁵⁷, DeFur⁵⁸, Allen⁵⁹). According to Greek survey, the teenage years constitute the period that individuals have their first sexual contact (Kokkevi⁶⁰).

The issue of sexual pleasure even when referring to heterosexual relationships, let alone homosexual ones, is an issue that is often omitted when discussing sexuality education. Sexuality education programs often emphasise on the negative or dangerous aspects of sexuality such as: STDs, AIDS, abuse, unwanted pregnancies, and the like, although efforts have been made in recent years to make the subject of sexual pleasure inherent and discussed in current programs (Koepsel⁶¹, Lamb et al.⁶², Hirst⁶³, Allen⁶⁴, Ingham⁶⁵, DeFur⁶⁶, Cameron-Lewis & Allen⁶⁷). In any case, as Hirst⁶⁸ (p.

⁵⁷ E.R. Koepsel, „The Power in Pleasure: Practical Implementation of Pleasure in Sex Education Classrooms”, *American Journal of Sexuality Education*, 2016, 11(3), pp. 205-265.

⁵⁸ K.M. DeFur, „Don't Forget the Good Stuff! Incorporating Positive Messages of Sexual Pleasure into Sexuality Education”, *American Journal of Sexuality Education*, 2012, 7(2), pp. 160-169.

⁵⁹ L. Allen, „‘Pleasurable pedagogy’: Young people’s ideas about teaching ‘pleasure’ in sexuality education”, *Twenty-First Century Society*, 2007, 2(3), pp. 249-264.

⁶⁰ A. Kokkevi, M. Stavrou, E. Kanavou, A. Fotiou, *Adolescent sexual behaviour and sexual health. Series of Short Reports: Adolescents, Behaviours & Health*. Athens: University Mental Health, Neurosciences and Precision Medicine Research Institute COSTAS STEFANIS (UMHRI). 2019, (Greek Edition),

https://www.epipsi.gr/images/Documents/hmera-kata-aids/HBSC2018_04_Sex.pdf, (accessed 20.01.2021)

⁶¹ E.R. Koepsel, *op. cit.*

⁶² S. Lamb, K. Lustig & K. Graling K. „The use and misuse of pleasure in sex education curricula”, *Sex Education*, 2013, 13(3), pp. 305-318.

⁶³ J. Hirst. „‘It’s got to be about enjoying yourself’: young people, sexual pleasure and sex and relationships education”. *Sex Education*, 2013, 13(4), pp. 423-436.

⁶⁴ L. Allen. *op. cit.*

⁶⁵ R. Ingham, „‘We didn’t cover that at school’: education against pleasure or education for pleasure?” *Sex Education*, 2005, 5(4), pp. 375-388.

⁶⁶ K.M. DeFur, *op. cit.*

⁶⁷ V. Cameron-Lewis & L. Allen. „Teaching pleasure and danger in sexuality education”, *Sex Education*, 2013, 13(2), pp. 121-132.

⁶⁸ J. Hirst, *op. cit.*

432) sums up, the need to include sexual pleasure in sexual education promotes and expands safe sex practices in the prevention of STDs and unwanted pregnancies, resists established patriarchal attitudes and perceptions of sexual pleasure of women, helps young people to cope with non-consensual sexual challenges and practices, fosters gender equality, offers critical argumentation against pornography and supports the interconnection of sexuality education with access to sexual health services.

As for non-heterosexual sexual relationships and identities, the discussion about pleasure can offer new tools in understanding diversity. Discussion within the school context of sexual pleasure in non-heterosexual relationships is almost "unthinkable" (Mayo in Lamb et al.⁶⁹ p. 306). But such a discussion should take place. As Rasmussen (in Lamb et al.⁷⁰ p. 307) states, the discussion about pleasure without specific references to LGBTQI can reintroduce harmful stereotypes. Such kind of stereotypes could be manifested in these students' questions as well.

Conclusions and suggestions

We are born, mature and end our lives having invested an important amount of our existence to understand our sexuality. In the school we learn about the reproductive parts of our body, our sex and gender. Throughout our lives we ponder about romantic or sexual or both desires, thoughts and feelings. Nevertheless, our actions regarding interpersonal, romantic and sexual partnerships, as well as our decisions on family planning, contribute to an important extend to our perceptions of wellbeing and self-fulfillment.

The educational community would be blind if it claimed that pre-adolescent and teenage individuals are indifferent, immature or unable to understand the concept of sexual diversity. Instead, their questions, as these were also presented here, can provide us with useful insights of their understandings and lead to the formulation of appropriate sexuality educational materials, practices and interventions.

In recent years, major global organisations, such as the UNESCO, UNAIDS, UNFPA, UNICEF, UN Women and WHO (in UNESCO⁷¹) have approached sexuality education in a more comprehensive way, through the promotion of social justice and human rights. Sexuality and interpersonal relationships education refer to matters of sexual

⁶⁹ S. Lamb, K. Lustig & K. Graling, *op. cit.*

⁷⁰ *Ibid.*, p. 307.

⁷¹ UNESCO, *op. cit.*

development, reproductive health, interpersonal relationships and intimacy. Also, to matters of self-perception and body image, as well as on gender roles. The role of the school in shaping *sexually educated individuals*, i.e., sexually healthy and cognitively informed human beings (Herdt & Howe⁷²), is important and recognised as such in the Greek editions of manuals on sexuality education. It is mentioned thereat that: *School through Sexuality Education has the potential to develop an integrated pedagogical tool that will not only provide the correct information but will also contribute to the formation of responsible attitudes and behaviours, starting with the understanding of ourselves* (Merakou et al.⁷³ p. 12).

Various messages suggest that people who differ in their sexual and gender identity become victims of violent reactions, social exclusion, marginalisation and violation of their basic human rights. This seems to be mainly due to unfounded and scientifically outmoded perceptions that still affect and shape attitudes of a large part of society as a whole. Such perceptions were expressed in students' questions examined for this paper. Sexual diversity is conceptualized by Greek primary and secondary students within a tight heterogeneous context. Sexuality is imprinted through reproduction and (conventional) morality, and existential questions that are at the centre of student questions remain essentially unexamined. By not being able to investigate these issues through a pedagogical systematic screening of sexuality and diversity issues in school, students are often prepared to marginalise, ignore or "stone" what they cannot understand. From this perspective, school becomes a field of acknowledgment but also social conflict. Similar to any other social issue, the absence of policies imposing comprehensive sexuality education to both in-service or future educators as well as students could contribute to marginalization and maintenance of social exclusion for LGBTQI individuals.

The educational community guided by the human rights conventions and recent scientific studies need to develop programs that will enable all students to grasp sexual and gender diversity in its scientific, historical and social dimension. Although some educational interventions towards inclusion of sexual and diversity issues in school were introduced lately, these need to become more evident within education policy decisions.

⁷² G.H. Herdt & C. Howe, *21st century sexualities: Contemporary issues in health, education, and rights*, Milton Park, Abingdon, Oxon: Routledge New York, 2007.

⁷³ K. Merakou, P. Pantzou, C. Kostopoulos, G. Petsas, I. Pipergia & M. Tsempeidou, M. *Health Education: Sexuality and Relationships Education for students 11-14 years old. Teachers' book*, (Greek Edition), Athens: OEDB, 2000.

Also, to be supported by teachers' training interventions. Sexuality education, sexual and gender diversity are important subjects for pre-service and in-service teachers' education. Teachers often do not possess academic and pedagogical skills and tools to challenge hegemonic notions of gender and sexuality, contributing to a hostile school environment.

Sexuality education programs should relate to educational interventions that empower young people, provide information about safe methods of sexual contact and overcome the biological and anatomical part to discuss issues of pleasure and sexual expression. At the same time, they should take into account the individual needs of people belonging to sexual minorities. The Greek educational system by ignoring the need for comprehensive sexuality education contributes to the perpetuation of misinformation, confusion and ultimately to the marginalisation and harassment of many.

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A CRITIQUE OF SUSAN HAACK'S FOUNDHERENTIST THEORY OF EMPIRICAL JUSTIFICATION

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Abstract: *In traditional epistemological discourse, the tripartite theory of knowledge is the conception of knowledge as justified true belief. Each condition of knowledge – belief, truth and justification – has evoked critical discussions among philosopher. However, for its nature of epistemic normativity, justification has evoked more critical reviews and there has been the development of different theories in its regard. Among traditional theories of justification are foundationalism and coherentism. Susan Haack argues that these two are inadequate theories of justification due to some flaws – foundationalism is susceptible to the problem of infinite regress while coherentism is susceptible to circularity problem. She proposes foundherentism, an intermediate theory of justification between foundationalism and coherentism, which she argues addresses the flaws of the traditional theories through an epistemic combination of the relevance of experience for the justification of empirical beliefs as well as pervasive mutual dependence among beliefs. In this paper, I argue that Haack's foundherentism fails as an adequate theory of justification. The position of this paper is that foundherentism does not pointedly address the problems of regress and circularity, hence it fails on the same ground as foundationalism and coherentism.*

Keywords: *coherentism, foundationalism, foundherentism, epistemic regress, circularity, epistemic justification.*

Introduction

In traditional epistemology, the three conditions of truth, belief and justification are held to be necessary and sufficient for knowledge. The truth condition stipulates that what is, is or what is not, is not and has generated some significant degrees of discussion that lead to different theories of truth such as correspondence, coherence and pragmatic theories. The belief condition is the acceptance of a proposition which may be true or false. Most objections against the truth condition are hinged more on the misuse of language rather than epistemic discourse. More so, to *know* a proposition, the mere belief that the proposition is true is inadequate for *knowing* it. One must have good reasons for believing it to

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be true. This is when the need for justification arises. It is seen as necessary because a belief which is true by mere luck doesn't amount to knowledge. Thus, justification is needed for a true belief to be knowledge. The justification condition has evoked great discussion and wide reviews. Among the three classic conditions for knowledge, justification is the only specifically epistemic component. The belief condition is psychological and the truth condition is semantic or metaphysical.¹ Thus, justification is the difference between merely believing something that is true and knowing it. To have knowledge one must have justification. There are, however, different traditional epistemic theories of justification, namely foundationalism and coherentism.

Each of these theories provides a structure of justification to ground plausibility epistemic justification in the epistemological equation of asserting knowledge. Foundationalism holds "that some beliefs are non-inferentially justified, or "foundational", and that all other justified beliefs depend for their justification on these foundational beliefs" ² while coherence theory of justification holds that "a belief is justified by the conformity of its relations with other beliefs to abstract principles of coherence, consistency, mutual reinforcement (possibly measured probabilistically), and explanation." ³ These theories are not without problem. Prominent among the problems faced by foundationalism is that of infinite regress. Andrew Cling explains the problem thus:

To know a proposition P_0 we must have a reason P_1 that supports P_0 by providing evidence for it. A proposition, however, is a reason only if there is a proposition that supports it. This requires that we have a reason P_2 that supports P_1 and so on. The resulting sequence of reasons is endless: infinite or circular. We cannot, however, acquire support by means of endless regresses. Thus we have no knowledge. That, roughly, is the epistemic regress problem.⁴

¹ J. Kim., "What is "Naturalised Epistemology"?" in Kornblith, H. (ed.) *Naturalizing Epistemology*. Cambridge, Massachusetts: MIT Press, 1994, pp. 34-35.

² M. Huemer, "Foundations and Coherence" in Dancy, J. et al (ed.) *A Companion to Epistemology*. 2nd Edition, Malden, MA: Blackwell Publishing Ltd., 2010, p. 25.

³ J. Leplin, *A Theory of Epistemic justification*. Philosophical Studies Series 112. Springer, 2009, p. 204.

⁴ A.D. Cling, "The Epistemic Regress Problem" in *Philosophical Studies: An International Journal for Philosophy in the Analytic Tradition*, 140(3), 2008: 401-402.

This shows that foundationalism is beset with the problem of a continuous structure of building the justification of a basic belief on a more basic belief and so on ad infinitum. In the coherence theory of truth, the equality in the justificatory ability of beliefs suggests a circle of justification where each belief needs the mutual support of other beliefs. These problems, among others, prompted Susan Haack to propose an alternative theory of justification, that is, foundherentism – an intermediate theory between foundationalist and coherence theories of justification.

This paper has three sections. In the first section, I examine the foundationalist and coherence theories of justification and the problems associated with them. In the second section, I present a critical understanding of Susan Haack's foundherentism as a theory of epistemic justification. In the third section, I engage in a critical evaluation of the foundherentist theory of empirical justification and submit that it does not solve the regress and circularity problems.

A Critical Review of the Foundationalist and Coherentist Theories of Epistemic Justification

As earlier stated, justification is the only condition of knowledge which plays an epistemic normative role among the conditions of knowledge. This explains why there has been a myriad of work concerning the structure of justification which has in turn given rise to different theories of epistemic justification. In discussing some of the developed theories of justification, it is important to analyse the concept of justification itself. Justification literally translates to evidence or reason. Thus, the role of justification in the tripartite conception of knowledge is that it stands as the evidence for the validation of held true beliefs. The importance of justification manifests in the fact that true belief alone cannot amount to knowledge. There are cases when true beliefs are a result of guess work or sheer luck. This shows that there is the need for reason or evidence to validate true beliefs. There are, however, further questions about the nature of justification. This is as regards whether justification is internal or external. In other words, is the justification of the true beliefs held by an epistemic agent as a result of internally reliable procedure or externally evidential procedure, hence the internalist and externalist divide in the nature of justification.

The internalist theory of justification holds that the necessary factors that provide justification for a belief are internal to the epistemic agent. On the other hand, the externalist theory of justification holds that an

epistemic agent can have a justified belief without knowing what justifies it.⁵ This is to say that the factors that justify a person's belief may be entirely independent of the person's subjective conception of the situation.⁶ In simple terms, factors that justify beliefs for internalism are those that are from within, internal and immediately accessible to the epistemic agent, that is, they are dependent on the epistemic agent's subjective view while factors that justify beliefs for externalism are those that are external and need not depend on the epistemic agent. The concern here is, however, the structure of justification and in this regard, there are two traditionally developed theories of justification, namely foundationalism and coherentism.

In making a knowledge claim, an epistemic agent bases his/her claim on the justification of the true belief he/she has. This justification is based on some other justificatory propositions which may be empirical beliefs or experiential propositions. Thus, the structure of justification, in this regard, is such that there are empirical beliefs that basically justify other empirical beliefs that in turn justify a knowledge claim. Basic beliefs are justified beliefs that do not require any inferential or conditional justifications from other beliefs. They are epistemically strong to justify knowledge claim. Non-basic beliefs are, however, dependent on inferential justification from other beliefs. The theory of justification with the structure explicated above is foundationalism. Robert Audi, states that foundationalism is the:

thesis that the structure of a body of knowledge... is foundational, in which this is taken to imply that any indirect (hence non-foundational) knowledge there is depends on direct (and thus in a sense foundational) knowledge. The superstructure, one might say, rests on the foundations. The second set of conclusions, regarding justification, may be interpreted as the thesis that the structure of a body of justified beliefs is foundational, where this is taken to imply that any indirectly (hence non-foundationally) justified beliefs

⁵ M., Lacewing, *'Internalist' and 'Externalist' Theories of Justification*. New York: Routledge, Taylor and Francis Group, 1993, p. 3.

⁶ Laurence, Bonjour, "Externalist Theories of Empirical Knowledge" in French, A. P. et. al. (eds.) *Midwest Studies in Philosophy Volume 5 Studies in Epistemology*. Minneapolis: University of Minnesota Press, 1980, p. 55.

there are depend on directly (thus in a sense foundationally) justified beliefs.⁷

Audi's definition simply presents the structure of justification in foundationalism as pyramidal, (borrowing Ernest Sosa's term). Some beliefs are non-basic and they depend for strength on more basic beliefs for epistemic support while some other beliefs are basic and are inferentially so such that they do not depend on further justification from other beliefs. Basic beliefs form the foundation of an epistemic agent's knowledge's claim. It is important to state that there are different variants of foundationalism which, arguably, have risen due to criticism-inspired ground-shifting. There are strong, pure, impure and weak or moderate foundationalism. One common feature of any variant of foundationalism is the view that true beliefs are justified directly by basic beliefs or inferentially by non- basic beliefs. The structure remains the same for all variants of foundationalism but the features of basic and non-basic beliefs may differ. For instance, strong foundationalism "requires that basic beliefs be fully justified by the subject's experience" while "weak foundationalism concedes that basic beliefs need not be fully justified by experience"⁸ Slight differences obtain in other variants of foundationalism as to what the features of the basic beliefs and non-basic beliefs are but the classical structure of foundationalism (of any variant) remains that justified beliefs are derived either directly from basic beliefs or inferentially through non-basic beliefs.

The problem with foundationalism, however, lies in the epistemic status it attributes to basic beliefs. A basic belief is taken to be one which immediately justifies an epistemic agents' knowledge claim. The immediate justification may be grounded on empirical evidence or rational deduction. But there is a question as regards what makes an epistemic agent's basic beliefs basic? In other words, raising the questions: "why is basic belief basic?" and "what makes basic beliefs basic?" is a pointer to the fact that basic beliefs will need a higher-order level and justification and when this is done, basic beliefs are no longer basic in the sense in which foundationalism holds them. When a higher-order level belief is used to justify the supposed "basic" belief, there is a need for a

⁷ R., Audi, *Epistemology: A Contemporary Introduction to the Theory of Knowledge*. 3rd Edition, New York: Routledge, Taylor and Francis Group, 2011, p. 216.

⁸ M., Huemer, "Foundations and Coherence", p. 27.

much higher-order level belief to justify the initial higher-order belief. This leads to an infinite regress and in the end, there is no end to justifying our beliefs.

Some advocates of foundationalism have tried to rescue it from the regress problem. Michael Huemer, for example, states that the regress problem is raised on the erroneous assumption that basic beliefs are incapable of being supported by reasons. Huemer argues that the position of foundationalism is that basic beliefs do not need reason for justification not that reasons could not be found for basic beliefs. Huemer's defense, notwithstanding, I believe that the regress argument against foundationalism still holds for the fact that reasons could be found for justifying basic beliefs presupposes that basic beliefs need them for justification. The regress problem against foundationalism seems to be targeted at the pyramidal structure of true belief justification, hence the development of an alternative theory of justification with a different justificatory structure, namely coherentism.

Michael Huemer defines the coherence theory of epistemic justification as one which,

...locates the source of all justification for belief in the relation of *coherence*. Typically, a system of beliefs is said to cohere well when it is consistent, many of the beliefs in the system are mutually supporting (that is, entail each other or render each other probable), and the system contains few or no anomalies (claims that have no explanation within the system).⁹

The above indicates that a belief or set of beliefs can be said to be epistemically justified if it coheres with other beliefs. Thus, unlike foundationalism which rests the justification of beliefs on basic beliefs, the coherence theory of epistemic justification rests the justification of a belief in the mutual support it gets within a set of other beliefs that it consistently cohere with. In a sense, coherentism seems to be an alternative theory to foundationalism which attempts to deal with the problem of epistemic regress faced by the latter. Coherentism's position against foundationalism includes the claim that there cannot be an adequate formulation of basic beliefs without further questions. Also, given the problem of epistemic regress, coherentist's claim rejects the

⁹ Ibidem, pp. 22-23.

foundationalist position that basic beliefs will be adequate to support the structure of epistemic justification touted by foundationalism.

One of the criticisms that have been raised against the coherence theory of epistemic justification is that it does not assign any role to sensory experience in its structure of justification. The theory holds that a belief is justified if and only if coheres with other beliefs within a system which suggests that it advocates an internal systematic structure of justification. This raises the question as to how mere internal coherence among beliefs within a system can serve as a basis of justification. For this internal system of coherence may not necessarily reflect happenings in the external world. Another problem against the coherence theory of epistemic justification is that of an adequate definition of coherence. As Huemer puts it, "what is it for a belief to be coherent?".¹⁰ How is the concept of "coherence" to be construed? Huemer posits two different forms of construal that an advocate of the coherence theory of justification may recognise. One is the weakest construal which, he posits, holds coherence to mean a mere logical consistency among beliefs such that to say a belief is justified in a coherentist system of epistemic justification is to say that that system does not contradict itself. Secondly, and the strongest construal, according to Huemer, is that of entailment such that to say a belief a belief is justified in a coherentist system of epistemic justification is to say that that system is coherent in a much as a belief therein is entailed by other beliefs in the system.¹¹

However, for each construal of the concept of "coherence", there is a problem. The weak construal is faulty given the fact that an epistemic agent can have at least one false belief within his/her system of beliefs which, in any case, does not nullify the justification that other true beliefs within the system lend one another. The presence of at least a false belief, by the reckoning of the weak construal, implies incoherence but this would be a wrong implication since it is epistemically possible to have justified inconsistent beliefs. The strong construal of the concept of "coherence" runs into problem when one considers the fact that entailment among beliefs does not say anything special that could warrant a justification for the beliefs within a system of other beliefs.

Furthermore, one of the distinguishing features of the coherence theory of justification has turned out to be one of its greatest let down.

¹⁰ Ibidem, p. 24.

¹¹ Ibidem.

This feature is the claim that every belief within a system of belief is at epistemological par with one another and there is no belief that is doxastically more privileged than others. This claim can be illustrated as follows: In a system of beliefs with beliefs P,Q and R of equal doxastic status, justification I determined by the coherence of these beliefs where P can be the reason for Q which can in turn be the reason for R which can also in turn be the reason for P. With this, the charge of vicious circularity has been leveled against the coherence theory of justification. The point of the argument from circularity is that the idea of mutual support or coherence of beliefs within a system begs the question since a belief justifies some other beliefs that in turn justify it. Robert Audi attempts to defend coherentism by arguing that coherence of beliefs is holistic and not linear such that “beliefs representing knowledge do not lie at one end of a grounded chain; they fit a coherent pattern, and their justification emerges from their fitting that pattern in an appropriate way.”¹² This holistic pattern of justification requires that a whole system of beliefs rather than individual beliefs be considered for coherence. Despite Audi’s defence, the circularity argument can also apply to the holistic view of coherentism with slight modification in the circularity argument.

Arguments against the foundationalist and coherentist theories of epistemic justification cannot be exhausted here. However, the few criticisms discussed above among other criticisms have prompted further modifications of the theories or the development of alternative theories as in the case of Susan Haack’s foundherentist theory of empirical justification.

A Critical Understanding of Susan Haack’s Foundherentist Theory of Empirical Justification

Susan Haack argues that the two traditional theories of justification – foundationalism and coherentism – are inadequate. Among other flaws, foundationalism (and any of its variant), according to her, is implausible for postulating a privilege class of basic beliefs which has plunged it into the problem of epistemic regress and coherentism fails for not assigning any cognizance to sensory experience to epistemic justification. Hence,

¹² R., Audi, *Belief, Justification and Knowledge: An Introduction to Epistemology*. Belmont, CA: Wadsworth Publishing Company, 1988, p. 88.

there is a need to develop an alternative intermediate theory that will make up for these flaws.¹³

Foundherentism, according to Haack, shares some features with the traditional theories of justification, that is, foundationalism and coherentism. Like foundationalism, foundherentism assigns a relevant role to an epistemic agent's sensory experience in the justification of his or her empirical belief. This feature is lacking in the coherentist formulation and, the coherentist's claim that the relevance of sensory experience only have causal but logical relations to beliefs but does not undermine the relevance of sensory experience in justification.¹⁴ Also, like coherentism, foundherentism holds that there is mutual support among an epistemic agent's justified beliefs and, the foundationalist's argument that a belief cannot be justified in a vicious circle, Haack argues, does not imply that there cannot be mutual support among beliefs.¹⁵

Haack presents four assumptions upon which foundherentism is based. The first assumption is that justification comes in degrees. The second is that the concepts of evidence and justification are internally connected. Thirdly, justification is personal as an epistemic agent may be more justified in believing a proposition than another epistemic agent is with regards to the same proposition. She, however, posits that though justification is personal, it is not subjective since an epistemic agent's personal justification in believing a proposition depends on how good the epistemic agent's evidence is. The fourth assumption is that justification is relative to time as one may be more justified in believing a proposition at time t_0 than at another time t_1 .¹⁶ For Haack, as earlier stated, justification is a double aspect concept, that is, it is partially causal and partially logical.

For example, in the proposition: "A is more/less justified, at t, in believing that p, depending on how good his evidence is", the double aspect of the concept of evidence includes "his evidence" which is a causal notion while "how good" is a logical or quasi-logical notion. "Belief" also has a double-aspect understanding namely "belief" as a mental state (i.e. S-belief) and "belief" as the content of what is believed (i.e. C-belief). For any proposition p, there can also be S-evidence and C-evidence. Thus, for

¹³ S., Haack, "A Foundherentist Theory of Empirical Justification" in Sosa, E. and Jaegwon, K. (eds.) *Epistemology: An Anthology*. Malden, MA: Blackwell Publishing Ltd., 2000, p. 227.

¹⁴ Ibidem, p. 228.

¹⁵ Ibidem.

¹⁶ Ibidem.

any epistemic agent's S-evidence with respect to proposition p , it involves experiential and belief-states of the epistemic agent which are causally connected to the epistemic agent's proposition p . On the other hand, an epistemic agent's C-evidence with respect to a proposition p , it involves "a set of proposition capable of standing in logical or quasi-logical relations to the C-belief that p ."¹⁷

Furthermore, the S-evidence of an epistemic agent consists of two basic parts, namely: the S-reasons with respect to the epistemic agent's proposition p , which is a part of the epistemic agent's S-evidence with respect to the proposition p , which consists of other beliefs. Secondly, the epistemic agent's sensory experience S-evidence with regards to the proposition p include the epistemic agent's memory of past perceptual and introspective state, awareness of current perceptual and introspective states. On the other hand, the C-evidence of an epistemic agent also consists of two basic parts. The epistemic agent's C-reasons for a proposition p are the agent's C-evidence with respect to the proposition p which includes the belief-contents of the agent's S-reasons. Secondly, the epistemic agent's sensory experience C-evidence with regards to the proposition p include propositions that support the fact that the epistemic agent is in perceptual, memory or introspective state that serve as the epistemic agent's sensory experience S-evidence concerning the proposition p .¹⁸

The main crux of Haack's explication of belief as a mental state and belief-content as well as their distinction between experiential evidence which are the states causally connected with an epistemic agent's belief in a proposition and experiential evidence which are propositions that are logically connected to the epistemic agent's belief, is to ground the formulation of foundherentism in the following, non-exhaustive ways. Firstly, there is no need for beliefs that will be considered basic or non-inferentially justified for the sensory experience evidence for an epistemic agent's perceptual, introspective and memory state. Secondly, in addition to a relationship of mutual support among beliefs, there is the need for propositions that support the fact that the epistemic agent is in the perceptual, introspective and memory states. In sum, Haack argues, that there are three key factors that are relevant to the justification of an epistemic agent's beliefs. These include, firstly, supportiveness which indicates the extent which an epistemic agent's belief is supported by

¹⁷ Ibidem, p. 229.

¹⁸ Ibidem, pp. 229-233.

his/her experiential evidence. The second factor is that of independent security which implies that “how justified a belief is in believing something depends in part on how well is supported by other beliefs, and hence how justified he is in believing those reasons, independently of the belief in question.”¹⁹ The third factor is that of comprehensiveness “which refers, not to the totality of relevant evidence but to the totality of relevant evidence but to the totality of relevant of available evidence.”²⁰

Thus, Haack presents foundherentism as an alternative theory of empirical justification which imbibes some features of foundationalism and coherentism but avoids the problems associated with a foundationalist claim of assigning privileges to some beliefs and also the problems associated with a coherentist’s claim that mutual supportiveness alone suffices for the justification of beliefs.

A Critical Evaluation of Susan Haack’s Foundherentism

One of the arguments against Haack’s foundherentism, which I consider a mere conceptual problem, is that her foundherentist theory is not completely different from a weak version of foundationalism which claims that beliefs need not be justified by sensory experience alone but may also be justified by mutual support among beliefs. Weak foundationalism realises the problem associated with the strong claim to include mutual support. Haack’s foundherentism is said not to be different from this formulation of weak foundationalism and that it is just a matter of difference in naming that Haack has employed in the presentation of her own theory of empirical justification. I do not subscribe to this argument though. Haack’s foundherentism has as its take off point, the theories of foundationalism and coherentism but the uniqueness of her theory lies not only in the unification of some plausible features of foundationalism and coherentism but also in the clear difference her theory posits from the other traditional theories. For instance, any formulation of foundationalism, whether strong or weak, pure or impure, still holds that there is a privileged class of beliefs which are non-inferentially justified, the justificatory role assigned to this class of belief is what differentiate the different versions of foundationalism. However, Haack’s foundherentism does not hold any class of belief to be non-inferentially justified in the same way as foundationalism. More so,

¹⁹ Ibidem, p. 232.

²⁰ Ibidem.

Haack's foundherentism is different from coherentism by assigning a relevant role to experience in justification.

More serious arguments against foundherentism include that it does not, in the final analysis, address the problems of epistemic regress and vicious circularity associated with foundationalism and coherentism respectively. To start with, foundationalism is charged with the problem of epistemic regress because it holds that there are basic beliefs which non-inferentially justify other beliefs while foundherentism does not acknowledge basic beliefs to supposedly avoid the problem of epistemic regress. Foundationalists' instances of basic belief include experience the awareness of such qualitative feel of one's sensation needs no further justification. Haack's foundherentism does not recognise such beliefs which could be said to be isolated evidentially, that is, such beliefs have evidence that does not link them to further evidential justification. The absence of the acknowledgement of such beliefs in the formulation of foundherentism coupled with the fact that foundherentism acknowledges that every justified belief must stand in support with one another shows that foundherentism does not recognise such evidentially isolated beliefs and it may be difficult to have terminal justified beliefs, hence the problem of epistemic regress.

Coherentism is charged with the problem of vicious circularity but foundherentism which Haack presents as a more plausible alternative also does not escape this problem too. Foundherentism holds that beliefs are justified, among other things, by pervasive mutual support, independence of beliefs and comprehensiveness while acknowledging causal and logical aspect of justification but this does not preclude the possibility of having beliefs that are accidentally justified. Here is an illustration to explain this claim. Assuming an epistemic agent has two different sensory experiences but the qualitative feel (that is, what it is like to be in the state) of these experiences are indistinguishable for the epistemic agent because they are similar, it is likely that the epistemic agent would hold a belief that these two similar, but different, experiences have same properties. With this, it is in no doubt that the epistemic agent's belief is a false one but, on a foundherentist formulation, it is possible to have this false belief justified since the C-evidence (in this case, the proposition that supports the fact that an epistemic agent is in a perceptual or introspective state) will involve propositions to the effect that the qualitative feel of these experiences is the same. The possibility of justifying a belief by accident constitute a flaw in foundherentism and the connection of this with the

problem of circularity is that a foundherentist rescue attempt may include that the accidentally justified beliefs be rightly justified by mutual support with other beliefs, but there is no guarantee that other beliefs cannot suffer the same fate of accidental justification and this may likely go on in a vicious circle of trying to justify a belief that has been accidentally justified. Thus, the foundherentist theory of epistemic justification fails in addressing the problem of epistemic regress and that of vicious circularity.

Conclusion

So far in this paper, I have been able to examine the two traditional theories of justification, namely foundationalism and coherentism. I identified and assessed some of the problems associated with these theories which include the problem of epistemic regress which is leveled against foundationalism for assigning privilege to some beliefs over and above others and the vicious circle charge against coherentism which was raised as a result of the claim that the doxastic equality that coherentism assigns to beliefs will reduce justification to a mere case of begging the question.

In the paper, I critically analysed Susan Haack's foundherentist theory of empirical justification which she developed as an intermediate theory between foundationalism and coherentism and also presented as a plausible alternative theory that will address the problems associated with the traditional theories of justification, that is, foundationalism and coherentism. I argued that foundherentism fails to address these problems. The possibility of beliefs that could be evidential in isolation and the failure of foundherentism to take this possibility into consideration is a pointer to the fact that it cannot address the problem of epistemic. Also, the possibility of having beliefs that are accidentally justified even when they are false indicates that foundherentism also is beset with the problem of vicious circle. I thus, submit that foundherentism does not provide an adequate theory of empirical justification.

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GENDER IMBALANCE AMONG TEACHING STAFF, STUDENTS ENROLMENT/COMPLETION IN NIGERIAN EDUCATIONAL SYSTEM

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Abstract: *The quality of education to a large extent depends on the quality of teaching staff. Besides, increasing students' enrolment is critical in improving the literacy level. Therefore, this seeks to assess the level of gender imbalance in teaching staff, students' enrolments and educational completion on Nigeria's quest for educational development. The data for this study were collected from secondary source such as text books, journals, reports among others while percentage, graphs and content analysis were used to analysed the data collected. This study revealed that there was a decline in the percentage of female teachers at all levels. Also, there was decline in the level of female enrolment at every level of education in Nigeria between 2012 and 2016. This suggested, among other things, that achieving gender balance among the teaching staff and in students' and pupils' enrolment require the National Assembly passing non-discriminating living environment for women at all levels of education in Nigeria.*

Keywords: *Gender imbalance, teaching staff, female teachers, students' enrolment, educational completion, national development.*

Introduction

Education covers all human activities and it is central to our understanding of how human society is organized. It also forms the basis upon which human ideas, knowledge, skills, values and experiences are developed. This explains why education is given an important priority in the annual budgetary allocation of many countries of the world. Besides,

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the United Nations Education Scientific and Cultural Organisation (UNESCO) advised its member states to allocate at least twenty-six percent of their annual budget for the development of their educational sector. Thus, it can be said that education is the bed rock for national development.

It is pertinent to the note that the aim of the National Policy on Education in Nigeria is to among other things provide excellent policy framework by the government that will identify, integrate and translate national inputs into curricular development¹. On the other hand, the Teachers Education Programmes was designed to produced highly motivated, conscientious and efficient teachers, promote the spirit of enquiry and creativity among teachers develop the social life of the society, produce teachers with adequate intellectual and professional background and ensure teachers commitment to the teaching profession².

Today, various countries of the world have developed National Policy on Education aimed at improving the standard of education. For instance, in Nigeria the Federal Government during its second National Development Plan (1970-1974) as a way of achieving an aspect of its national development considered education as a priority for support. This is because as at 1960 when the country gained her independence from Britain, the structure and strategies for educational delivery were inadequate to meet the newly independent country's quest for development as there was the need to revise the existed educational structure and strategies if the country must achieve it developmental goals³.

Moreover, in a bid to achieve the developmental goals of education in Nigeria, there is the need to widen the educational curriculum that will allow for pupils and students alike to develop their skills and knowledge in order to contribute significantly to national development. Since, 1970 to date the Nigerian educational system have undergone through remarkable reforms from traditional educational system of education which emphasises literary studies and underplayed vocational education. Today, the new educational system in Nigeria has provided Nigerians

¹ S., Ehindero, *Curriculum Foundation and Development for Nigerian Students Lagos*: Concept Publication, 1986.

² L.M., Dantong, M.L., Ving, and Z.A., Daspan, *An Introduction to Teacher Education in Nigeria Dazmak Computers* (2014).

³ N.H., Anikeze, W.O., Okonkwo, & L.N., Esiagu *Rudiment of public policy Analysis Enugu*: Academic Publishing Company (2007).

ample opportunities for both technical and academic knowledge using Information and Communication Technologies (ICTs) in learning.

Also, the Nigerian education system have been designed in a way that it allows for nine years of basic education of which six years of primary and three years of junior secondary, three years of senior secondary and four years of tertiary education bring the total number of years to sixteen years. In terms of ownership and control of the Nigerian education system, the Nigerian educational system falls within the concurrent list that the federal, state and local governments have the power to own educational institutions, provided they have the resource to fund them. In contemporary time, the Nigerian educational system has further been liberalised to allow for private ownership of educational institutions.

In addition, despite the increasing numbers of educational institutions in Nigeria, a number of factors have been responsible for the failure of Nigerian educational system such as poor education financing; inequitable access to quality learning opportunities; poverty which allow most parents to allow their children to engage in economic activities that help the family which to a large extent limiting the numbers of hours spent per day in a classroom by the pupil and students.

Furthermore, a number of reasons have been advanced in the literature for the increasing level of low students and pupils enrollment and for dropping out of school at various levels of education in Nigeria today such pupils and students cost of transportation to/from of the school and limited pupils and students learning time per hour due to their involvement in economic activities to support family earnings, despite the existence of free and compulsory education at the basic levels of education in Nigeria.

Lastly, the poor quality of education at every level in Nigeria has discouraged students and pupils enrollment and their inability to complete their basic education and affect learning outcomes. Besides, much can be desired when the situation of the girl-child is brought to for due to the socio-cultural factors that have impede the parents from sending their child to school. This has further been exacerbated by poor conditions of the learning environment to support teaching and learning such as poor condition of physical facilities (water and sanitation facilities); inadequate teacher training and limited opportunities for professional development; and a lack of linkages to the needs of the labor market. Moreover, the level of Teacher qualification and distribution at every level of education in Nigeria have also been life-threatening

encounters to the efficacious delivery of basic education⁴. It is against this background; this study seeks to assess the level of gender imbalance in teaching staff, completion of education and students' enrolments on Nigeria's quest for educational development.

Conceptual Review: Education and National Development

The Oxford Dictionary of English define education as a process of teaching, training and learning, especially in Schools or Colleges, to improve knowledge and develop skills. Wiktionary defined education as "facts, skills and ideas that have been learned, either formally or informally"⁵. Similarly, it is defined as "the process or art of imparting knowledge, skill and judgment". Fafunwa conceived education as the totality of all procedures by which a Child or Young Adult develops the abilities, attitudes, and other forms of behavior which are of positive value to the society in which he lives⁶. In the view of Ving, et al the concept of education involves the aggregate of ideas, usable skills and needed value orientations that can nurture individuals into responsible competent Citizens.

The concept of national development is the totality of political, economic and social development of country⁷. It involves both the quantitative and qualitative change in a country. It also involves the improvement in the social welfare of the citizens like in terms of provision of social amenities such electricity, pipe borne water, building of hospitals and educational development etc. The goal of national development involves poverty reduction, improvement in National Income, Per capita income, improve quality of education, improvement in agricultural productivity, transportation and communication, development of health facilities.

Lawal and Oluwatoyin conceived national development as the overall development or a collective socio-economic, political as well as religious advancement of a country or nation. They added that national development can only be achieved through developmental planning⁸.

⁴ USAID, USAID/Nigeria Country Development Cooperation Strategy Washington, D.C: USAID P:1-81, 2015.

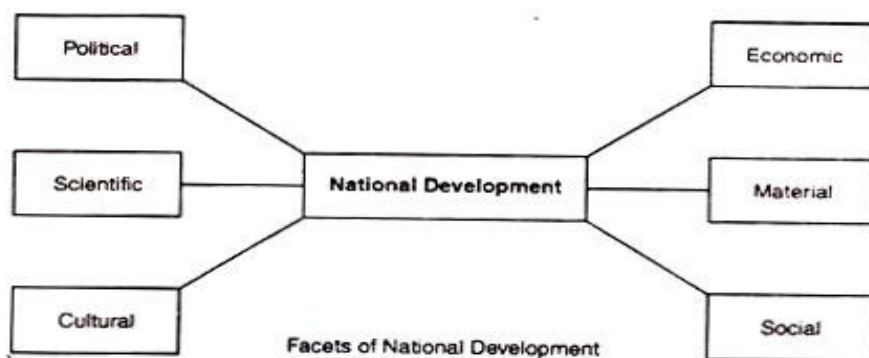
⁵ www.en.wiktionary.org Accessed on 04/06/2020

⁶ A.B., Fafunwa *History of Education in Nigeria* London: George-Allen and Unwin, 1974.

⁷ L.M., Dantong, M.L., Ving, and Z.A., Daspan, *An Introduction to Teacher Education in Nigeria* Dazmak Computers (2014).

⁸ T. Lawal, & A., Oluwatoyin, *National development in Nigeria: Issues, challenges and prospects* Journal of Public Administration and Policy Research Vol. 3(9): 237-241, 2011.

“The term national development is very comprehensive. It includes all aspects of the life of an individual and the nation. It is holistic in approach. It is a process of reconstruction and development in various dimensions of a nation and development of individuals. It includes full-growth and expansion of our industries, agriculture, education, social, religious and cultural institutions. Moreover, national development implies development of a nation as a whole. It can be best defined as the all-round and balanced development of different aspects and facets of the nation viz. political, economic, social, cultural, scientific and material”⁹.



Source:¹⁰

Figure 1 above shows that various components of National Development which include: Political, economic, scientific, material, cultural and social. It can be said that a country can achieve national development when the various components are developed or improved upon.

However, in 1971, United Nations identified five factors that are important in National Development to include the following: 1. Equal living standard for all; 2. Equal share of all in profit; 3. Equal distribution of income and capital; 4. Expansion of facilities regarding education, health,, shelter and social welfare and 5. Preservation of environment. United Nations Decade Report has defined it as: **“National development**

⁹ www.yourarticlelibrary.com/society/national-development-meaning-and-problems/76824

¹⁰ *ibid*: 6

is growth plus change. Change in turn is social and cultural as well as economic and qualitative as well as quantitative”.

From the above assertions’ contributions of education to national development are enormous as it gives the individual room to contribute one’s own quota, to the growth of the society, of which he is a member. Therefore, no country can make progress without investing in educating its citizens. This is because education is the engine room for human development. Thus, a nation that fails to invest in education will not develop.

Gender imbalance, Teaching Staff, Students Enrolment/Completion and National Development in Nigeria

There is increasing concern by education experts on the quality of education in Nigeria, this is because, high quality of teaching staff at every level of education to a large extent depends on the quality of the teaching staff in Nigerian educational system. Therefore, achieving gender balance among the teaching staff at every level in Nigerian educational system is important in promoting gender parity in relation to access to education at every level in Nigeria. Today, there is the need to develop a non-discriminating learning environment for both girl-child and the boy-child in Nigerian educational system.

Consequently, there is a nexus between gender balance especially among teaching staff in Nigerian educational system and improvement in gender parity in students and pupil’s enrolment. Today, there is progress in terms of increasing number of female teachers’ in Nigerian educational system. But a lot is required at the state level especially in the northern part of the country where significant numbers of socio-cultural factors have been working against the girl-child by depriving them access to education when compared to the boy-child.

Thus, there is the need to improve the level of girl-child access to education at every level of education in Nigeria. Achieving national development using education as a tool requires quality of education. This can be achieved when qualified and competent teaching staff are employed, salaries and wages well paid as at when due and the numbers of teaching staff are adequate when compared to the numbers of students (Teacher-Students Ratio), physical facilities for learning, adequate budgetary allocation to the educational sector, proper framework and institutions for monitoring and evaluating educational performance and students and pupils with the right frame of mind to learn.

According to Anikeze, Okonkwo and Esiagu the concept of national development represents a broad social, political and economic views. Therefore, proper educational planning is considered key to achieving high quality of education in Nigeria. Besides, when there is the improvement in important and competent knowledge, skills and positive attitude on the citizen through education, it will lead to national development¹¹. It can be said that national development can be achieved when the right educational plans are implemented at various level of education in Nigeria.

It is pertinent to note that achieving national development through education requires among other things like developed educational infrastructural facilities, competent teaching staff, proper educational funding and the preparedness of the government in providing employment opportunities for the graduates from its educational institutions in a bid for them to contribute positively to the national development of the country¹².

Table 1: Percentage Distribution of Teaching Staff in Educational institution (2013/2014-2015/2016)

Institution	2013/2014			2014/2015			2015/2016		
	M	F	%F	M	F	%F	M	F	%F
Public Primary	282,096	233,305	45.27	293,019	274,361	48.36	283,051	259,482	47.83
Junior Secondary	163,543	165,216	50.25	127,331	145,810	53.38	152,623	139,457	47.75
Senior Secondary	235,500	215,808	47.82	339,454	372,090	52.29	350,323	328,836	48.42
Polytechnic	9,839	2,559	20.64	12,663	3,360	20.97	NA	NA	NA
College of Education	13,924	5,031	26.54	14,176	5,480	27.88	NA	NA	NA

Source:¹³

Table 1 above shows the percentage of female teachers in public primary schools was 45.27 per cent during the 2013/2014 academic session, and it increased to 48.36 per cent during 2014/2015 academic

¹¹ N.H., Anikeze, W.O., Okonkwo, & L.N., Esiagu *Rudiment of public policy Analysis Enugu: Academic Publishing Company* (2007).

¹² Ibidem.

¹³ Data were generated from the National Bureau of Statistics, Statistical report on women and men in Nigeria 2017 Abuja: NBS (2018).

session but decreased slightly to 47.83 per cent in 2015/2016 academic session. At the secondary school level, the number of female teachers in junior secondary schools was 50.25 per cent during 2013/2014 academic session and 53.38 per cent during the 2014/2015 academic session but decreased to 47.75 per cent during 2015/2016 academic session. Besides, at the senior secondary school level, the percentage of female teachers was 47.82 per cent during 2013/2014 academic session. This shows that there was an increased to 52.29 per cent during 2014/2015 academic session. However, it decreased to 48.42 per cent in 2015/2016 academic session. It can be said that the percentage of female teachers in polytechnics and colleges was very low, between 20 to 28 in 2013/2014 academic session and 2014/2015 academic sessions. This call for proactive measures by stakeholders in the Nigerian educational system to address the dwindling state of female enrolment.

Table 2: Distribution of Enrolment of school-Age Girls in Primary Education by Year and Sex

Year	M	F	%F	%M
2014	13,255,789	12,545,408	48.6	51.4
2015	13,393,310	12,049,225	47.4	52.6
2016	13,435,940	12,155,241	47.5	52.5

Source:¹⁴

Table 2 above shows that the rate of pupils' enrolment in primary education in Nigeria. The school age girls in enrolment in primary education in Nigeria was 48.6 per cent as against the boy-child enrolment of 51.4 per cent in 2014 but decreased in 2015 to 47.4 as against increase in the number of boy-child enrolment to 52.6 per cent and the number of girl-child enrolment increased slightly in 2016 to 47.5 per cent as against the boy-child enrolment that slightly decreased to 52.5 per cent. The result further shows that more than half of pupils enrolled in primary schools were boys, which accounted for 51.4 per cent of total primary school

¹⁴ National Bureau of Statistics, *Statistical report on women and men in Nigeria 2017* Abuja: NBS (2018).

pupils in 2014. The percentage rose to 52.6 per cent in 2015 and slightly decreased to 52.5 per cent in 2016.

A close look at the above data, it can be said that girl-child enrolment in primary education between the years under review shows that girl-child enrolment in primary schools were on the decrease. For instance, the National Bureau of Statistics (2018) report shows that Zamfara state had the lowest percentage of girl-child enrolled in primary schools in the years under review ranges from 34.8-35.5 per cent between 2014 and 2016, while the percentages of the boy-child enrolment were between 65.2-65.5 per cent respectively. Consequently, Borno state recorded 46.1 per cent of school girls enrolled in 2016. Thus, there is the need for urgent government interventions in ensuring that there is improving in the numbers of girl-child enrolment at the primary education level.

Table 3: Percentage Distribution of Enrolment in Junior Secondary Schools by Sex, (2012-2016)

Junior Secondary				
Year	M	F	%F	%M
2014	3,311,470	2,891,624	46.6	53.4
2015	3,260,109	2,920,182	47.2	52.8
2016	3,181,810	2,786,332	46.7	53.3

Source:¹⁵

Table 3 shows that girl-child enrolment in junior secondary school stood as 46.6 per cent in 2014 as against the boy-child 53.2 per cent and it increased to 47.2 per cent in 2015 as against the boy-child with 52.8 per cent but it decreased to 46.7 per cent as against 53.3 per cent in 2016. Thus, while the numbers of girl-child enrolment increased and decreased. The numbers of boy-child enrolment decreased and later increased. Besides, the National Bureau of Statistics (2018) report shows that Abia state had the highest percentage of girls enrolled in junior secondary school, of 53.7 and 55.6 in 2014 and 2016 respectively. From 2014 to 2016 Kebbi state had the lowest percentage of girls enrolled in junior secondary of 33 per cent.

¹⁵ Data were generated from the National Bureau of Statistics, Statistical report on women and men in Nigeria 2017 Abuja: NBS (2018).

Table 4: Distribution of Enrolment in Senior Secondary School by Sex, 2012-2016

Senior Secondary				
Year	M	F	%F	%M
2014	2,321,183`	1,971,306	45.9	54.1
2015	2,629,526	2,281,418	46.5	53.5
2016	2,417,192	2,058,117	46.0	54.0

Source:¹⁶

Table 4 above shows that 45.9 per cent of girl-child enrolled in senior secondary schools in 2014 as against the boy-child with 54.1 per cent enrolment. In 2015, the girl-child enrolment in senior secondary schools increased to 46.5 per cent while the boy-child enrolment in senior secondary schools decreased slightly to 53.5 per cent while, in 2016 the girl-child enrolment in senior secondary schools slightly decreased to 46.0 per cent while the boy-child enrolment in senior secondary schools slightly increased to 54.0 per cent in 2016.

According to the National Bureau of Statistics (2018) report shows that a nationwide percentage of girls in senior secondary schools was below 50 per cent of boys were enrolled to senior secondary schools in 2014 to 2016. Enugu state had the highest per cent of girls' enrolment in senior secondary schools in both 2014 and 2015 representing 55.4 per cent and Abia state had the highest in 2016 representing 55.9 per cent, while Kebbi recorded the lowest percentage representing 29.5 per cent.

Table 5: Distribution of Primary and Secondary schools Completion Rate by Sex (2016)

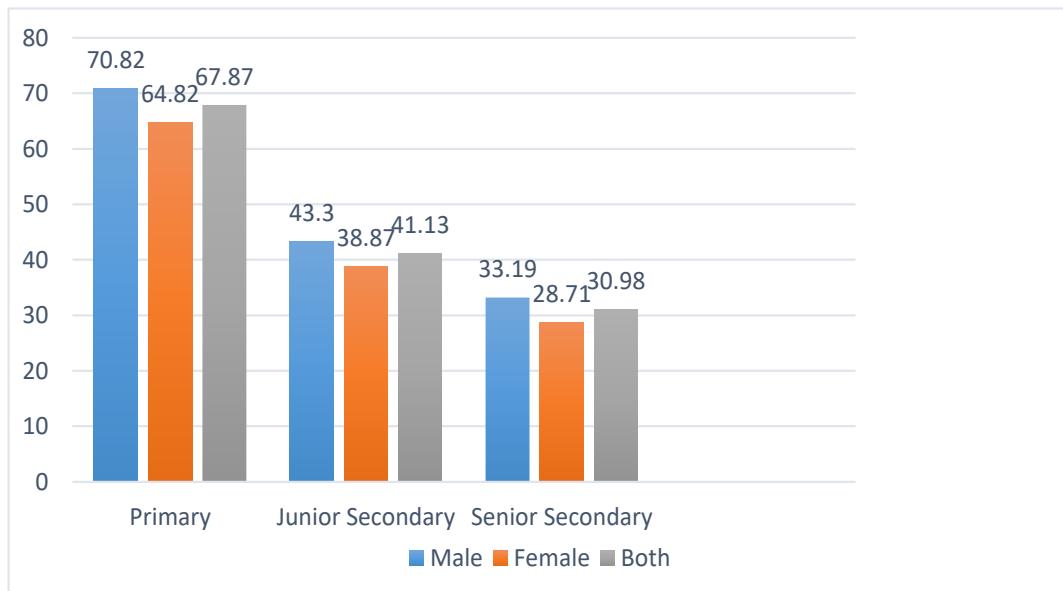
Primary School	Junior Secondary School	Senior Secondary School
70.82	43.3	33.19
64.82	38.87	28.71
67.87	41.13	30.98

Source:¹⁷

¹⁶ Ibid: 12

¹⁷ Ibid: 13

Figure 2: Distribution of Primary and Secondary schools Completion Rate by Sex (2016).



Source:¹⁸

Figure 2 shows that the completion rate for girls in primary school in 2016 was 64.8 per cent in the country while it was 70.8 per cent for boys. For junior secondary schools, the completion rate for girls and boys in 2016 were 38.9 and 43.3 per cent respectively while the completion rate for girls and boys in senior secondary school were lower than the completion rates in primary schools and junior secondary for both the girl-child and boy child with an average of 30 per cent, 28.7 for girls and 33.19 for boys.

¹⁸ Data were collected from the National Bureau of Statistics (2018)

Table 6: Students Enrolment and Turnout in Colleges of Education and Polytechnics by Year and Sex

Year	College of Education											
	Enrolment			Out-Turn			Enrolment			Out-Turn		
	F	M	%F	F	M	%F	F	M	%F	F	M	%F
2013/ 2014	175,507	195,019	47.37	18,885	17,069	52.53	117,638	175,745	40.10	50,304	74,362	40.35
2014/ 2015	175,438	199,811	46.75	NA	NA	NA	119,687	174,105	40.74	43,060	65,228	39.76

Source: 1

¹ Ibid: 14

The table below shows that the percentage of female enrolled in colleges of education in Nigeria for the reference period was below average, 47.37 per cent and 46.75 per cent for 2013/2014 and 2014/2015 academic sessions respectively. The turnout for female was above average (52.53 per cent) for 2013/2014. For Polytechnics about 40 per cent students was about 40 per cent for the two periods.

Table 7: Students’ Enrolment in Nigeria Universities by Sex (2012/2013)

Universities	F	M	%F	%M
Federal	273,657	487706	35.94	64.06
State	171,942	243384	41.40	58.60
Private	33,750	39,203	46.24	53.74
Total	479,349	770,293		

Source:¹

Table 4 above shows that female enrolment in Nigeria universities in 2012/2013 was 38.36 per cent while the percentage of male enrolment was 61.64 per cent. Private universities had the highest percentage of female enrolment at 46.26 per cent followed by state universities with 41.40 per cent and federal universities at 35.94 per cent.

From the above analysis, we realised that women teaching staff are low when compared to the men. Also, girl-child enrolment when compare to the boy-child at every level of education in Nigeria. Besides, at the point of completion the situation of gender disparity between the girl-child and the boy child has not been equal. This calls for serious action by the stakeholders in the Nigerian educational system to revamp the Nigerian educational sector that is already in a state of comatose.

Conclusion

The Nigerian educational system has undergone various reforms since 1960s. Thus, improving quality of teaching staff in Nigerian educational system is considered one of the important priorities of the government in a bid to achieve its national development goals. Moreover, remarkable progress has been made by government at all levels in Nigeria to improve on existing pupils and student’s enrolment. Despite these efforts, achieving gender parity in relation to girl-child and boy-child enrolment [has](#) been problematic due to a number of factors ranging from

¹ Ibid: 15

religious discrimination and poverty among others. Therefore, students and pupil's enrolment in relation to gender parity at every level of education in Nigeria has not been even. Worst of these levels is at the tertiary institutions level across the country was dominated by male on the average. From the forgoing analysis, government effort at improving the quality and standard of education in Nigeria will not be rewarding if the government and education stakeholders do not work harmoniously together to savage the Nigeria educational system that is in comatose. This is because the ability of Nigeria to achieve its national goals will solely rest on enhancing the quality and standard of education because education remains the bed rock for the national development.

Recommendations

Firstly, a reliable data base that will among other things capture the net enrolment of government and non-government schools base on (gender, age, name of institutions that is government and non-government schools etc.) in Nigeria is required to be able to have adequate information on the educational system. Also, germane is that the educational data base should provide information about the total numbers of academic and non-academic staff in the school as well as their designation so that where there are inadequate staff, recruitment can be made and where staff are retired replacement can be made. This is fundamental to educational planning and management.

Secondly, achieving gender parity in teaching staff across Nigerian educational system requires the Nigerian government at every level of governance to grant partial or full scholarship to the girl-child at every level of education in Nigeria. This will further help to consolidate on the achievements already achieved.

Thirdly, the National Assembly and State Houses of Assembly should criminalise any act that deprive and girl-child access to quality education in Nigeria.

Besides, National Assembly and State Houses of Assembly should pass a law that will punish any organization or persons who discriminate against any women or girl-child on the bases of their sex access to any kind of job.

Moreover, the Federal Government of Nigeria should create the desired enabling environment for the organised private sector to extend their investment in education through creation of more jobs for Nigerian graduates in a bid to improve national development in Nigeria.

Moreover, achieving improved level of quality teaching staff, increased students/pupils' enrolment in a bid to enhanced educational completion requires proper funding of education in Nigeria. To this end, the Federal Government of Nigeria must as a matter of fact increasing its funding to the educational sector if it seeks to achieve improved level of quality teaching staff, increased students/pupils' enrolment in a bid to enhanced educational completion and ultimately attain national development.

Furthermore, the Federal Government of Nigeria should invest heavily in science and technology as well as encourage girl-child training in professional disciplines such as Medicine and Engineering among others.

In addition, professionalizing the teaching profession remains central in promoting rapid development in Nigeria. This will entail separating the "chaff from the grain" that is trained from untrained teachers, besides, untrained teachers who possess teaching skill and training can be assisted to advance through in-service courses organized by the ministry of education at whatever levels of government or granting them study leave to be trained in reputable educational institution of higher learning.

On the whole, the Federal Ministry of Education, Traditional and religious in collaboration with various educational stakeholders should empower on aggressive campaign across the country, in enlightening parents especially in the northern parts of Nigeria where the discrimination against the girl-child and women alike is intense on the dangers of discriminating against the girl-child and women and the danger it has on human society at large.

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DETERMINANTS OF PROSOCIAL BEHAVIOR AMONG SECONDARY AND PREPARATORY SCHOOL STUDENTS

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Abstract: *This study was designed to measure the determinants of prosocial behaviour (sex, altruistic tendency, religiosity and life satisfaction) among secondary and preparatory school students in South Gondar Zone. A sample of 390 students was selected from both secondary and preparatory school through stratified random sampling. Of the 390 students' 361 students' returned their questionnaires for analysis. Pro-social behaviour scale, altruistic tendency scale, religiosity scale, life satisfaction scale and a questionnaire on demographic information was used to the present study. A result indicates that except sex, other independent variables significantly predict students' prosocial behaviour. The study also explored there is a strong positive relationship between students' pro-social behaviour their altruistic tendency, religiosity and life satisfaction. Moreover the study also shows that students 'are engaged in pro-social behaviour. The actual mean of pro-social behaviour is significantly higher than the expected mean (31.29 > 27). This study explored that students' altruistic tendency, religiosity and life satisfaction significantly predict participants' prosocial behaviour but, participants' sex does not significantly predict prosocial behaviour. The study recommended that school-family- and community partnership is very essential in order to promote students prosocial behaviour. Secondary and preparatory schools should give their students an opportunity to work collaboratively and participate in activities designed to promote social understanding.*

Keywords: *Prosocial behavior, Sex, Altruistic Tendency, Religiosity, Life-Satisfaction*

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Introduction

“Humans are mutual beings. They develop emotional relationships and live together throughout their lives. They interact and communicate with each other in their environment, but the quality of the interaction is vital for the society as well as for them” (Aragaw, 2001:1).¹

Prosocial behavior refers to voluntary behaviors made with the aim of helping or benefiting other individuals, group of persons or the society as a whole. Prosocial behavior includes sharing private assets, emotional support to others in times of suffering, volunteering, instrumental help and costly help (Eisenberg & Fabes, 1998).²

Pro-social behavior and altruism are different concepts. Pro-social behavior is a pattern of activity, whereas altruism refers to the motivation to help others without the benefit of the helpers. This definition carefully avoids the potential benefits to the person performing the pro-social behavior (Knickerbocker, 2004).³

Charles Darwin in his theory of evolution speculated that natural selection favors genes that support the continued existence of the individual. Any gene that furthers our survival and boosts the probability that we will produce offspring's is likely to be passed on from generation to generation (Simpson & Beckes, 2009)⁴.

In social exchange theory of pro-social behavior people help others for the wish to maximize their rewards and minimize their costs. Pro-social behavior is based on self-interest with no genetic basis. Here, helping can be rewarding in three ways: it can increase the probability that someone will help in return in the future; it can reduce the personal misery of the bystander; and it can gain us social approval and improved self-worth. Helping can also be expensive; thus, it decreases when costs are high. The theory presumes that people help only when the rewards compensate the costs (Aronson, Wilson & Alkert, 2010).

In Ethiopia various religious leaders, elders, and tribes, plays an important role by teaching or advising individuals regarding pro-social

¹ B., Aragaw, *The altruistic behaviours of home-reared, institutionalized and street children*. (MA Thesis). Department of psychology, AddisAbeba University, 2001.

² N., Eisenberg and R.A., Fabes, *Prosocial development* (1998) in: W. Damon (Series Ed.) & N. Eisenberg (Vol. Ed.) *Handbook of child psychology. Vol. 3. Social, emotional, and personality development*, (5th edn) New York: John Wiley, 701-778.

³ Roberta L., Knickerbocker, (n.d.) *Prosocial behaviour*. Retrieved October 4, 2009, from, <http://learningtogive.org/papers/paper52.html>

⁴ J.A., Simpson & L., Beckes, *Evolutionary Perspectives on Prosocial Behaviour*. 2009, 35 (2).

behaviours. In addition to this, community leaders, religious leaders and Community Based Organizations (CBO's), such as Idir, Jemiya and Iquib members also plays great role by creating awareness towards pro-social behaviour for their members as well as the community as a whole. For example, in most part of the Ethiopian culture Idir and Jemiya members has a responsibility during ritual ceremonies by giving money, emotional support, sharing ideas, and different materials.

Even if, the research conducted in relation to prosocial behaviour is limited in Ethiopia, there are a variety of proverbs, which inspire people to engage in prosocial behaviour. For example, in the Amhara culture, there is a proverb, which states that:

“ያለፈን የሠጠ ንፋግ አይባልም”

This means that:

A person who gives what he has is not said to be greedy (translated by the researchers).

Thus, this paper aims to investigate prosocial behaviour associated with sex, religiosity, altruistic tendency and life satisfaction among secondary and preparatory school students in Ethiopia, Amhara Region, and South Gondar zone. This paper also assesses the relationship between students' prosocial behaviour and its determinants and to what extent students' are involved in prosocial behaviour.

Afolabi (2014)⁵ advocated that some social psychological papers try to investigate social behaviour among infants and children or the aged. Almost none of that tries to explore prosocial behavior among youths. Tsehay; Mulatie; Sellakumar; Begashaw, (2014)⁶ most studies had been given attention to the negative behaviour of humans such as aggression, crime, and substance abuse, researchers given little attention or interest to study pro-social behaviour actions or activities practiced by the society in everyday settings.

In Ethiopia there are some studies focused on prosocial behaviour among youths in Addis Ababa. For e.g. Tafetu, (2007)⁷ conducted a study on factors influencing volunteers' helping behaviour among Red Cross Society Youth

⁵ O.A. Afolabi, Psychological predictors of prosocial behaviour among a sample of Nigerian undergraduates. *European Scientific Journal*, 10 (2), 2014, 241-266.

⁶ D.S. Tsehay M.M. mulatie, G.K. Sellakumar, G.A. Begashaw, Pro-social behaviors and identity statuses among adolescent students. *Journal of Social Sciences*, Vol. 2, 2014, (1) 21-26).

⁷ S. Tafetu, *Factors influencing volunteers helping behavior: The case of Red Cross society youth volunteers in Addis Ababa*. (MA Thesis). Department of Psychology; Addis Ababa University, 2007.

Volunteers in Addis Ababa. Additionally, Tsehay, et al., (2014) conducted a study on Pro-social behaviour and Identity status among Adolescent Students in Addis Ababa. However, these studies only focused on adolescents' prosocial behaviour in large cities; little attention has been given to those adolescents living in small towns/villages. Besides, none of these studies explicitly show altruism and life satisfaction as the determinant of pro-social behaviour among adolescents and the incidence of helping manners amongst youths and challenges thereof remains vague. Moreover, in Ethiopia there is no known research encompassing all four variables in a single study. The review of literature and the theoretical proposition guiding the present work focuses on determinants of pro-social behaviour among secondary and preparatory school students. The following are the main research questions of this study.

- Do sex, altruistic tendency, religiosity and life satisfaction of students' significantly predict pro-social behaviour?
- Is there a significant relationship between students' prosocial behaviour as a result of students' altruistic tendency?
- Is there a significant relationship between students' prosocial behaviour and religiosity?
- Is there a significant connection between students' prosocial behaviour and life satisfaction?
- To what extent are students' involved in pro-social behaviour?

The overall objective of this paper was to investigate the roles of determinants on prosocial behaviour among secondary and preparatory school students in South Gondar zone.

1. Prosocial Behavior

According to Eiesenberg; Fabes; Spinrad, (2006)⁸ pro-social behaviour is any act that benefits another person which include volunteering for charitable activities, donating resources, comforting others, and helping the needy. Furthermore, Eiesenberg (1982) cited in Aragaw (2001) pro-social behaviour has been defined as charitable, planned behaviour that results in benefits for another person or group.

⁸ N. Eisenberg, R.A. Fabes, & T.L. Spinrad, T Prosocial development. In N. Eisenberg (Vol. Ed.), W. Damon & R.M. Lerner (Series Eds.), *Handbook of child psychology: Social, emotional, and personality development*, 3, 646–718. New York: Wiley, 2006.

1.1. Prosocial Behavior: Correlates

1.1.1. Altruism and Prosocial Behavior

People agreed that the idea of pro-social behaviour and altruism are similar and have the same meaning. Even if, both concepts are concerning actions from someone in order to benefit others, but they are two different concepts. The motivation to help others without the benefits of the helper is known as altruism whereas; pro-social behaviour refers to a pattern of activity. Altruism is one determinant of pro-social behaviour (Knickerbocker (2004)).⁹

Woymans (2010)¹⁰ found that a positive effect for altruism and for empathic concern. The higher people score on altruism or empathic concern, the more people tend to do pro-social behaviour. He also found that a positive effect for altruism and for empathic concern. The higher people score on altruism or empathic concern, the more people tend to do prosocial behaviour. According to Carlo and Randall (2001)¹¹; Fabes, Carlo, Kupanoff, & Laible, (1999),¹² internalized norms or principles are another motives linked with altruistic responding concerning helping. At a higher levels or stages internalized norms and principles are frequently exhibited when individuals are able to higher order formal operations thinking, a characteristic of adolescents. Because these principles are strongly internalized (and often become part of the individual's self-concept), individuals with a higher principles and moral reasoning concerning helping are expected to engage in altruistic behavior in particular and prosocial behavior in general.

1.1.2. Sex Differences in Prosocial Behavior

According to Hastings, Utendale, & Sullivan (2007)¹³ gender is one of the most consistent correlates of pro-social behaviour and cross-cultural evidence

⁹ Roberta L., Knickerbocker, (n.d.) *Prosocial behaviour*. Retrieved October 4, 2009, from, <http://learningtogive.org/papers/paper52.html>

¹⁰ V., Woymans, *Psychological Predictors for Prosocial Behaviour*. A large scale in Flanders, 2010.

¹¹ G. Carlo and B.A., Randall, Are all prosocial behaviors equal? A socioecological developmental conception of prosocial behavior in: F. Columbus (Ed.) *Advances in psychology research*, (Vol. 2) Huntington: Nova Science Publishers, 2001, 151-170.

¹² R.A. Fabes, G., Carlo, K., Kupanoff, & D., Laible, Early Adolescence and Prosocial/Moral Behavior I: The Role of Individual Processes. *The Journal of Early Adolescence*, 19, 1999, 5-16.

¹³ P.D. Hastings; W.T. Utendale & C. Sullivan, The Socialization of Prosocial Development. In J.E. Grusec & P.D. Hastings (Eds.), *Handbook of Socialization: Theory and Research*. New York and London: The Guildford Press, 2007.

has shown that girls aid and give more than boys. Eisenberg and Fabes (1998)¹⁴ reported a seminal meta-analysis of gender differences in pro-social behaviour involving 259 studies yielding a total of 450 effect sizes. The mean un-weighted effect size was modest (.18) and favoured girls. Studies using the dictator game have found that between 9- and 17-years-old, girls make higher individual offers than boys Gummerum (2008) & Leman (2009) cited in Hine (2013)¹⁵.

Nevertheless, some studies using the dictator task and other economic games such as the challenge game have found no sex differences in individual offers (Takezawa, Gummerum, & Keller, 2006)¹⁶. In addition, many earlier meta-reviews were much more careful in their conclusions compared to Fabes and Eisenberg. For example, Underwood & Moore (1982)¹⁷ was stating that sex differences in pro-social behaviour are small and not patterned. Furthermore, Bekkers and Wiepking, (2007)¹⁸ finds no sex difference in likelihood of giving, but his results do confirm larger donations by men compared to women. Moreover, McGinley and Carlo (2007)¹⁹ found that there is no considerable variation between boys and girls on pro-social behaviours.

1.1.3. Religiosity and Prosocial Behavior

Hardy & Carlo (2005)²⁰ hypothesized that religiosity would be positively or negatively linked with among the six types of youngsters pro-social behaviours, these relationships would be true when religiosity is arbitrated by the pro-social value of kindness, this is because religiosity was a

¹⁴ N. Eisenberg and R.A. Fabes, Prosocial development (1998) in: W. Damon (Series Ed.) & N. Eisenberg (Vol. Ed.) *Handbook of child psychology. Vol. 3. Social, emotional, and personality development*, (5th edn) New York: John Wiley, 701-778.

¹⁵ B. Hine, *Investigating the Developing Relationship between Gender and Prosocial Behaviour*. Royal Holloway, University of London, 2013.

¹⁶ M. Takezawa; M. Gummerum, & M., Keller, A stage for the rational tail of the emotional dog: Roles of moral reasoning in group decision making. *Journal of Economic Psychology*, 27, 2006, 117-139.

¹⁷ Underwood B., & Moore B., Perspective-taking and altruism. *Psychological Bulletin*, 91(1), 1982, 143-173. <https://doi.org/10.1037/0033-2909.91.1.143>

¹⁸ R. Bekkers, & P. Wiepking, (2007), *Generosity and philanthropy: A literature review*. Unpublished manuscript. Retrieved September 15, 2010, from http://www.papers.ssrn.com/.cfm?abstract_id=1015507.

¹⁹ M. McGinley, & G. Carlo, Two sides of the same coin? The relations between prosocial and physically aggressive behaviors. *Journal of Youth and Adolescence*, 36(3), 2007, 337-349.

²⁰ S.A. Hardy, and Carlo, G., Religiosity and prosocial behaviours in adolescence: the mediating role of prosocial values. *Journal of Moral Education*, 34(2), 2005, 231-249. doi: 10.1080/03057240500127210.

considerable constructive predictor of kindness, as well as the three types of pro-social behaviours such as, compliant, anonymous and altruistic pro-social behaviour, but not dire, public, and emotional pro-social behaviours. Hardy & Carlo concluded that kindness was the most important arbitrator for the association between religiosity and both compliant pro-social behaviour and altruistic behaviour.

Olver (2012)²¹ observed that how religious values and the ideas and language that come with them can motivate pro-social behaviours. For him, many prior psychological studies “find only moderate connections between religiosity and helping.” Olver concluded that “while quantitative studies have found that subjective religiosity was not as strong a predictor of [pro-social] helping, the paper suggests that this finding may be explained by insufficient measures of subjective religiosity.”

1.1.4. Life Satisfaction and Prosocial Behaviour

Caprara and Steca, (2005)²² tested the posited structural path of influence through which perceived self-efficacy of affect regulation operates in concert with perceived interpersonal self-efficacy to determine prosocial behavior, which in turn influences satisfaction with life in four age groups. A strong sense of efficacy in the regulation of positive and negative affect was associated with a high perceived efficacy in the management of social relationships and in empathic engagement in others' emotional experiences. Interpersonal self-efficacy directly affected prosocial behavior and entirely mediated the influence of affective self-efficacy on it. As predicted, prosocial behavior directly influenced life satisfaction, showing a higher path of influence for the oldest group as compared to the other ones.

Anderson (2009)²³ in his study concluded that satisfaction with life did not account for any of the variance of prosocial behavior. This suggests that those who demonstrate prosocial behavior are not significantly motivated to

²¹ C. Olver Link between religion and helping others: Role of values, ideas and language. Retrieved on September 18, 2012 from

http://www.journalists' resource. Org/studies/society/culture/link-between-religion-and-helping-others?wpmp_switcher=mobile.

²² G.V. Caprara, & P. Steca, Self-efficacy beliefs as determinants of prosocial behavior conducive to life satisfaction across ages. *Journal of Social and Clinical Psychology*, 24(2), 2005, 191-217.

²³ K. Anderson, 2009, *Relationships between prosocial behavior, spirituality, narcissism and satisfaction with life*. Retrieved on September 18, 2012 from

<https://gustavus.edu/psychology/documents/KellyAndersonSpr09.pdf>

do so because of life satisfaction, but as a result of other factors. Perhaps prosocial behavior is too complex and too broad to be significantly accounted for by satisfaction with life. Prosocial behavior and satisfaction with life were also found to be unrelated.

2. Research Methods

2.1. Description of the Study Area

This study was conducted in South Gondar Zone, specifically in Debre Tabor, Woreta, Nifas Mewucha, and Addiszemen secondary and preparatory school students. South Gondar Zone is a Zone in the Ethiopian Amhara Region. The largest city of this zone is Debre Tabor. South Gondar is bordered on the South by East Gojjam, on the North by Gondar, on the West by Lake Tana, and on the East by North Wollo. The highest point in South Gondar is Mount Guna (4,231 meters). Towns and cities in this zone include, Debre Tabor, Wereta, Nifas Mewucha and Addiszemen.

2.2. Design of the Study

The main purpose of this study was to investigate pro-social behaviour associated with sex, altruistic tendency, religiosity, and life satisfaction of students in some selected secondary and preparatory schools which are found in South Gondar zone. In order to address the stated purpose, this research was employed quantitative methods of data collection and analysis especially cross sectional survey research design was employed.

2.3. Population, Sample and Sampling Techniques

The target population for this study were secondary and preparatory school students enrolled at Debre tabor, Woreta, Addis zemen and Nifas Mewucha secondary and preparatory schools in 2017/18 academic year. The schools were selected using simple random sampling technique by lottery technique. The schools were governmental schools located in Amhara region, South Gondar zone.

The total numbers of students in the study schools were 15072, (Grade 9, Male = 2176, Female = 2088, Total = 4264, Grade 10, Male = 2108, Female = 1952, Total = 4060, Grade 11, Male = 2220, Female = 1752, Total = 3504, and Grade 12, Male = 1708, Female = 1068, Total = 2776). The total numbers of male students in all schools were 8212, and female students were 6860. Out of this, 390 students (M=212, F=178) were selected through proportional stratified sampling. From each stratum male and female students were selected through simple random sampling technique.

2.4. Data Gathering Instruments

The instrument used to gather information questionnaires comprising five sections. The first section is to get information on demographic variables concerning age, sex, religion, and grade level. The other four sections were used to collect data about the participants' pro-social behaviour, altruistic tendency, religiosity and life satisfaction.

The section meant for measuring pro-social behaviour consisted of 9 items with five point rating scale: ranging from Never/Almost never (1) to Always/Almost always (5). The items were extracted from Hine, (2013).²⁴ To check the reliability of the pro-social behaviour measure, pilot taste was conducted by taking students from one selected school. For this study the reliability coefficient of the scale was 0.868.

The other section contained a 14-item altruism scale developed by Rushton (1981)²⁵ and later adapted by Witt and Boleman (2009). It had a 5-point scale ranging from Never (1) to Very Often (5). The scale was found to have a Cronbach alpha reliability estimate of 0.80 for all items. For the present study two items were eliminated by the researchers because these items were not suitable for this paper. To check the reliability of 12 items pilot test was conducted by taking students from one selected school. For the present study, the reliability of 0.79 was established for 12 items.

The other section contained a 10-item Religious Commitment Inventory (RCI) which was designed to measure the level of the participants' religiosity and spirituality. Participants indicated their level of religiosity and spirituality on a 5- point Likert scale ranging from Not at all true of me (1) to Totally true of me (5). The reliability coefficient of the RCI items was 0.93. For this study the reliability coefficient of this scale was 0.876.

The last section contained a 5-item SWLS scale developed by Diener, Emmons, Larsen, & Griffin, (1985)²⁶. This is a 5-item measure that is used to evaluate each participant's cognitive judgments of satisfaction with his or her life. It had a 7-point scale ranging from (1= "Strongly Disagree"; 7= "Strongly Agree"). Diener et al. (1985) reported a reliability coefficient alpha of 0.87 for SWLS items. For the present study the reliability coefficient of this scale was 0.742.

²⁴ B. Hine *Investigating the Developing Relationship between Gender and Prosocial Behaviour*. Royal Holloway, University of London, 2013.

²⁵ P.C. R., Rushton, The altruistic personality and the self-report altruism scale. *Personality and Individual Differences*, 2(4), 1981, 293-302.

²⁶ E. Diener; R.A. Emmons; R.J., Larsen, & S. Griffin, The Satisfaction with Life Scale. *Journal of Personality Assessment*, 49, 1985, 71-75.

All questionnaires were converted in to Amharic language.

2.5. Data Analysis Techniques

Quantitative data analysis technique was employed for the present study. The data gathering through the questionnaire was analyzed by using multiple regression analysis, correlation and one sample t-test. In order to investigate the role of predictors', such as sex, religiosity, altruistic tendency and life satisfaction on prosocial behaviour the researchers used multiple regression analysis. In order to measure the relationship between students' prosocial behaviour as a result of their altruistic tendency, religiosity and life satisfaction the researchers used Pearson product moment correlation coefficient. One sample t-test was employed to measure the overall engagement of students in pro-social behavior.

3. Results and Discussion

3.1. Demographic Information of Participants

Among the 390 sample participants who took part in this study, 361 respondents returned their surveys for analyses. 186 (51.5%) male 175 (48.5%) were female. The data also shows that 127 (35.2%) were from grade 9, 78 (21.6%) were from grade 10, 85 (23.5%) were from grade 11, and 71 (19.7%) students from grade 12 returned their questionnaires. Demographic information's of the sample are presented in Table 1.

Table 1:
Demographic information of respondents, Variables, Frequency and Percent.

Variable	Frequency	Percent
Age (n = 361)		
(15-20)		100
Sex (n = 361)		
Male	186	51.5
Female	175	48.5
Grade Level (n = 361)		
9	127	35.2
10	78	21.6
11	85	23.5
12	71	19.7
Religion (n = 361)		
Orthodox	290	80.3
Muslim	55	15.2
Protestant	16	4.4

3.2. Regression Analysis of Prosocial Behavior with Sex, Altruistic tendency, Religiosity and Life satisfaction

The first question the study has planned to address was about whether predictors of prosocial behaviour such as sex, altruistic tendency, religiosity and life satisfaction significantly predict prosocial behaviour or not. Multiple regression analysis was determining the main and correlation effects of the variables.

Table 2:

Regression Analysis of Predictors (Sex, Altruistic Tendency Religiosity, and Life Satisfaction) on Pro-social Behaviour of Students.

Variables	B	Std. Error	Beta	T	Sig.	R	R ²	Adj. R ²
(Constant)	14.019	1.664		8.424	0.000	0.508	0.258	0.250
Sex	-.628	0.469	-.061	-1.339	0.181			
Altruistic tendency	0.231	0.035	0.234	6.631	0.000			
Religiosity	0.191	0.038	0.239	4.976	0.000			
Life satisfaction	0.096	0.036	0.126	2.653	0.008			

Dependant variable: Pro-social behaviour. Sig. P < 0.05

As indicated in Table 4, the result of the regression analysis demonstrated that participants' sex is not significant predictor of pro-social behaviour 0.181 > 0.05 ($p > 0.05$). The obtained result supported by Bekkers and Wiepking, (2007)²⁷ finds no sex difference in likelihood of giving. In their study McGinley and Carlo (2007) found that there is no significant difference between sex and pro-social behaviour.

From the above table we can understand that as the altruistic tendency of the students increase by one unit, participants prosocial behaviour also increase by 23.1% and it is statistically significant at 5% (0.05) level of significance ($0.000 < 0.05$). This finding is in line with Woymans, (2010)²⁸ found that a positive effect for altruism and for empathic concern. The higher

²⁷ R. Bekkers, & P. Wiepking, 2007, *Generosity and philanthropy: A literature review*. Unpublished manuscript. Retrieved September 15, 2010, from http://www.papers.ssrn.com/.cfm?abstract_id=1015507.

²⁸ V. Woymans, *Psychological Predictors for Prosocial Behaviour*. A large scale in Flanders, 2010.

people score on altruism or empathic concern, the more people tend to do prosocial behaviour. According to Fabes, *et al.*, (1999)²⁹ internalized norms or principles are another motives linked with altruistic responding concerning helping. At a higher levels or stages internalized norms and principles are frequently exhibited when individuals are able to higher order formal operations thinking, a characteristic of adolescents. Because these principles are strongly internalized (and often become part of the individual's self-concept), individuals with a higher principles and moral reasoning concerning helping are expected to engage in altruistic behaviour in particular and prosocial behaviour in general.

The result of the regression analysis confirmed that as the religiosity of the students improve by one unit, students' prosocial behaviour also improve by 19.1% and it is statistically significant at 5%, $0.000 < 0.05$ ($P < 0.05$). With regard to participants religiosity, many studies support the idea that religious people are thought to be more prosocial than nonreligious people. For example, Smith, (2003)³⁰ religiosity provides youth with moral directives to lead their decisions and behaviours. Religious involvement or religious importance are positively associated altruism and service (Furrow, King, & White, 2004).³¹ The study revealed religiosity was a significant predictor of youth behaviour. Religious adolescents were consistent with volunteer work, and spent their time on supplementary (extracurricular activities).

The regression analysis with life satisfaction toward prosocial behavior shows a clear positive effect. Research has shown that prosocial behavior is positively linked with life satisfaction. This finding is in line with, Hunter and Lin (1981)³² found that people over the age of sixty five who are prosocial were more satisfied with life, and were less anxiety and had low depression. Similarly, Martin and Huebner (2007)³³ found that a higher rate of prosocial interactions was related to greater life satisfaction and prosocial acts for middle school students.

²⁹ R.A. Fabes; G. Carlo; K. Kupanoff, & D. Laible, Early Adolescence and Prosocial/Moral Behavior I: The Role of Individual Processes. *The Journal of Early Adolescence*, 19, 1999, 5-16

³⁰ C., Smith, Theorizing religious effects among American adolescents. *Journal for the Scientific Study of Religion*, 42(1), 2003, 17-30.

³¹ J.L., Furrow, P.E., King and K., White, Religion and positive youth development: identity, meaning, and prosocial concerns. *Applied Developmental Science*, 8(1), 2004, 17-26.

³² K.I., Hunter & M.W., Lin, Psychosocial differences between elderly volunteers and non-volunteers. *International Journal of Aging and Human Development*, 12, 1981, 205-213.

³³ K. Martin, & E.S. Huebner, Peer victimization, prosocial experiences and emotional well-being of Middle school students. *Psychology in the Schools*, 44, 2007, 199-208.

foster life satisfaction by promoting reciprocity and social integration as well as a sense of competence and meaning in life. For instance, Caprara and Steca (2005) found a consistent positive effect of prosociality on life satisfaction from early adulthood to the elderly period.

3.4. Extent of students' involvement in prosocial behavior

The last section this study planned to address was the extent to which students' involvement in pro-social behaviour. Participants' were asked nine questions about their everyday pro-social behaviour with a rating on a 5 point Likert scale: Never/Almost never (1), Just a few times (2), Sometimes (3), Often (4) and Always/Almost always (5). For the purpose of analysis, the researcher used the average mean value of the scale. The expected level was determined based on the items scale. One sample t-test was used to determine the extent of their involvement in pro-social behaviour. The observed mean value of pro-social behaviour of students' was compared with the expected mean value of 27. This value was determined by the number of pro-social behaviour items (9) multiplied by 3 (sometimes). It was assumed that a response of 27 is sufficient to say that participants have engaged in pro-social behaviour. If the actual or observed mean of pro-social behaviour is greater than the expected mean value of 27 the status of students involvement in pro-social behaviour is good, whereas, when the expected t- value is greater than or equal to the observed mean their involvement is weak.

Table 6:

Level of Pro-social behaviour Mean, Standard deviations, t- obtained values:

Variable	N	Mean	SD	t-obtained	df	Sig(2-tailed)	Mean Difference
Prosocial Behaviour	361	31.29	5.131	15.890	360	0.00	4.291

As it can be seen from Table 6, the obtained result revealed that the participants' involvement in pro-social behaviour is significantly above the expected level. The mean value of pro-social behaviour (31.29) is statistically significantly higher than test value of 27. This is because participants are born and grow in a collectivist country. This finding is in line with Mullen and

Skitka (2009)⁴³ found that people who grew up in a collectivistic society are more familiar to the idea of helping others, but it appears that this tendency is restricted to the members of the in-group. Furthermore, this finding is supported by the work of Lukacikova (2011)⁴⁴ in smaller towns or a village, people are more likely to participate in pro-social activities, because almost everyone knows each other, knows their options, is the notion of anonymity rather hidden. Moreover, Eisenberg *et al*, (2006)⁴⁵ suggest that children in Western societies are less pro-social than children in other cultures. For instance, someone living in the US is least likely to help someone in need than someone living in Australia, India or Kenya.

Conclusion

Based on the findings of this study, the following conclusions are made.

In conclusion, it has been established that except sex, other independent variables such as religiosity, altruistic tendency and life satisfaction significantly predict pro-social behaviour among secondary and preparatory school students. Concerning the relationship between prosocial behaviour students' altruistic tendency, religiosity and life satisfaction the obtained results demonstrated that there was a strong positive relationship between dependant variable and independent variables. Regarding the overall involvement of pro-social behaviour, students participate in different pro-social behaviour actions. These findings may provide some interesting points for further research.

Recommendation

Based on the findings, the study formulated the following possible recommendations.

- The study recommended that school-family- and community partnership is very essential in order to promote students participation in extracurricular activities in general and prosocial behavior in particular. Because extracurricular activities increase

⁴³ E. Mullen, & L.J. Skitka, Comparing Americans' and Ukrainians' allocations of public assistance: The role of affective reactions in helping behavior. *Journal of Cross-Cultural Psychology*, 40, 2009, 301-318.

⁴⁴ M. Lukacikovsa, Prosocial behaviour of adolescent in school and after school environment. *School and Health* 21, *Education and Healthcare*, 2011, pp. 212-215.

⁴⁵ N. Eisenberg; R.A. Fabes & T.L. Spinrad, Prosocial development. In N. Eisenberg (Vol. Ed.), W. Damon & R.M. Lerner (Series Eds.), *Handbook of child psychology: Social, emotional, and personality development*, 3, 2006, 646-718. New York: Wiley.

students' self-esteem and positive social behaviors among children and adolescents. These activities also a suggested strategy to increase social support systems, develop social skills and relationships, and enhance neighborhood cohesion. Therefore, schools, families, communities, or religious organizations should arrange programs for students to participate in extracurricular activities in general and prosocial and altruistic behavior in particular.

- Secondary and preparatory schools should give their learners a prospect to work collaboratively in groups and participate in activities designed to promote the skills of observing and processing the larger social environment. There should also be opportunities for training designed to teach interpersonal or soft skills in order to solve social problem skills. For students with severe antisocial behavior, school counselors should provide effective cognitive-behavioral therapy to enhance prosociality.
- Governmental and nongovernmental organizations in collaboration with the school should arrange variety of award and encouragement programs for students who become role models in their pro-social behaviour in order to encourage them to be more devoted to involve in pro-social behaviour and further develop their participation.

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A GLIMPSE OF CULTURAL DIVISION IN THE NOVEL *MIDNIGHT AT THE DRAGON CAFÉ*

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Abstract: *The huge issue of identity representation in fiction seems to have gained ever more weight over the past decades by an unprecedented variety of problematics in the “ethnic writing” by authors from minority communities that have been marginalized before the favorable cultural shift occurred in the Canadian society of a recent past through more hospitable legislation. Such ethnic writers expand the social concept of identity more often than not by blending sexuality and race, nationality and ethnicity in their narrated experiences with the struggles for recognition and integration. Cultural division in such a society is the focus of this article, in conjunction with a Chinese family’s drama which particularly affects the child protagonist and her personal experiences during the process of acculturation in the novel *Midnight at the Dragon Café* by Judy Fong Bates.*

Keywords: *identity, Judy Fong Bates, *Midnight at the Dragon Café*, diaspora, cultural hybridity, transculturalism.*

There is so much going on behind, or beyond, the proper story. There’s life spreading out behind the story – the book’s life – and we see it out of the corner of the eye.¹

The territory chartered by Alice Munro in the Canadian feminine literature has become a prolific writing space of fictionalized emotions and experiences lived, expressed with the vigour of an accomplished art. Major issues such as growing up, dealing with diversity, hostility or invisibility, emotional tailspin and different ways of understanding love and death are recurrent themes in contemporary prose fiction produced within that space. The atmosphere of provincial life in a small town from Ontario in its gothic aspects of a family life complicated by secrets, with

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¹ Alice, Munro, Afterword, *Emily of New Moon*, by L.M. Montgomery (1923; Toronto: McClelland, 1989) pp. 360.

moments of epiphany, feelings of sadness or guilt and sometimes anger reminds readers of Alice Munro's consecrated style when reading Judy Fong Bates' debut novel *Midnight at the Dragon Café*, while being unique in every respect. However, this work pertains to what has been called Asian-Canadian literature, which creates and confirms readers' expectations of a new cultural perspective. In a larger sense, these are: "women's revisions of history though frequently from the position of being "others" in Canadian society, and the stories they tell are stories of diaspora, immigrancy, racial and cultural hybridity, and transculturalism².

Judy Fong Bates is a Chinese-Canadian fiction writer also known for her collection of short stories entitled "China Dog and Other Tales from a Chinese Laundry" (1997) about the life of Chinese immigrants settled in Ontario and the strangeness of their everyday life and for the non-fictional memoir "The Year of Finding Memory" (2010). She has personally experienced life in a bicultural world and what it means to be different with an everlasting hope for recognition. In both her short stories volume and her novel, Bates creates vivid and detailed descriptions of immigrants' households and workplaces, where they 'swallow bitterness' while following their dream of a good life for their children, in a clash with issues of real life. The circumstances test their character and determination to succeed, rendering incontestable proofs of their astonishing strength and resilience. In such times of trials and hardwork they discover who they really are and what they want to do. All the disappointments and nostalgia of the first generation of immigrants to Canada is dispelled by the second generation that is younger and eager to accomplish integration. There are also moments of silent resignation and stoic acceptance that come from their own Chinese culture and they are resurfaced as unspoken bitterness and pain. Certainly, their lives are not easy but rather challenged in all their aspects. Such repressed emotions in a climate of loneliness and unhappiness create damage to themselves, as well as turmoil and confusion.

Culturally hybrid identities are, sometimes as literary constructs, underpinned by sad stories of fighting against racial stereotypes with an emphasis on the intercultural elements at play during acculturation. These new voices of the 1990s and 2000s enrich the literature produced in Canada not only thematically but also stylistically. Lien Chao introduced

² *The Cambridge Companion to Canadian Literature*. Eva-Marie Kroller (ed.), Vancouver: University of British Columbia, CUP 2004, pp. 208.

Asian writers like Jim Wong-Chu, Paul Yee, Denise Chong, Fred Wah, Sky Lee and Wayson Choy in the literary canon of Canada through his critical book called *Beyond Silence: Chinese Canadian Literature in English* (1997). Displacement and immigration are depicted in a variety of ways through personal histories that represent life around Chinatowns and their communities. Another notable contribution to the study of this literature is Susanne Hilf's book *Writing the Hyphen: The Articulation of Interculturalism in Contemporary Chinese-Canadian Literature* (2000). These literary productions show the increased interest in the field and a higher appreciation of ethnic writing which is integrative to Canadian literature.

Canadian citizenship emerged with the clear intention to produce racial divisions among the populations within the territorial boundaries of the nation state, divisions which remain significant to this day and which continue the project of all racial states to produce national racial homogeneity in the face of cultural heterogeneity³.

Transnational encounters of Chinese diaspora migrated to Canada, the largest racialized minority group make visible the cultural differences at the personal level, such as attitudes, behaviour, all types of manifestations, social or private. The writers empower themselves in their attempt to ameliorate the traumas caused by the clash of subjectivities, they depict these differences and strive to become from an invisible minority to a visible one in terms of the place they are given by the mainstream ideology and culture at the discursive level, since 'the pan-ethnic racial categories of "Asian" and "Asian Canadian" need to be understood as socio-political constructs that are formed through interpellation and identification that name and bring together a racialized mixture of diverse ethno-national cultural groups"⁴.

The novel *Midnight at the Dragon Café* is set in a small town called Irvine in Ontario during the 1960s and the action develops with unexpected intricacies. After the Second World War the Chinese men working in Canada were able to bring their families (after the Exclusion Act and Head Tax from 1885 and 1923 respectively), at a time when

³ *Asian Canadian Studies Reader*: Roland Sintos Coloma, Gordon Pon (eds.), University of Toronto Press, 2017, pp. 7.

⁴ *Idem*, p. 42.

people tried to escape the Communist regime in their country and make a better life for their children. The main narrator is a six-year old girl called Su-Jen who experiences the drama of leaving home and being divided between two cultures. In addition to this she is bullied and humiliated on account of her race and burdened by her family's secrets about lineage and a love affair. This private family life has a larger background of Canadian history and literary culture.

In Canadian literary culture, the emphasis on narrative of 'recovery' or writing into history is more prevalent than in Australia (...) a number of texts offer versions of Chinese-Canadian literary cultural history, concentrating on writing Asian-Canadian lives into historical Canadian sites⁵.

Judy Fong Bates's novel is written in a clear and concise style though able to create an emotional approach of the immigrant experience, such as the one of the Chou family who left a mostly collectivist society to a highly individualistic one in search for a better life, in a deeply realistic ethnographic account. The change in place and culture has an impact on these people's inner and outer existence. That causes more tensions within their bonds than outside, in the society at large. There is more inter-familial struggle sparked from the change in culture rather than struggle with society at large. As compared to other narratives centered on Chinatown, this family's history is more about isolation and cultural disconnection from other inhabitants of Irevine. Su-Jen and her mother, Lai-Jing left immigrated to Canada to reunite with her father Hing-Wun, an elderly man who owns a Chinese Restaurant, a local greasy spoon called The Dragon Café. He holds very sturdy beliefs concerning hard work and money as a path to happiness. The married couple cannot connect through affection and they eventually live in separate rooms as a result of that family rift, deepened and complicated by the beautiful and much younger wife's starting an affair with her stepson Lee-Kung, Su-Jen's elder half brother. He was working elsewhere in Canada but came to help the family with running the restaurant. Su-Jen's happiness and peace are gone as the her mother's situation cannot be held secret anymore and more transgressions come in their lives.

⁵ Khoo, Tseen Ling, *Banana Bending – Asian-Australian and Asian-Canadian Literatures*, Hong Kong: Hong Kong University Press, 2003, p. 163.

The characters relate in different ways to money and the new culture either concerning the way in which they work for it, save or spend it, not only as a personal choice but also as a social issues compared to their neighbours that are Canada-born. Aunt Hai-Lan and the Chong family and the Chous moving in a new home, all reveal their preoccupation with money. The best integrated of all is undoubtedly little Su-Jen who learns English to become fluent and translate for her relatives, and befriends Canadian schoolgirls among whom Charlotte will be the closest. As the protagonist learns about and experiences life in a dramatic way and grows disenchanted with her family, the novel can be considered a *bildungsroman* in a Gothic note and infused with visible autobiographic elements. She tries to adapt to the new social and cultural context while her family struggle to preserve their Chinese cultural identity in attitudes, behaviour, and way of thinking. Only that their culture is isolated from the mainstream as a predictable consequence of their ways. Su-Jen assimilates the Canadian culture even though her father, Hing-Wun, continually tries to teach her the Confucianist principles practiced by the entire family: “all the teachings from Confucius my father had taught me - obeying, respecting and listening to your teacher”⁶. It becomes harder and harder for this girl to “swallow bitterness” and not to speak her mind and act according to her own desires. The intra-familial struggles are not open in that household, on the account that family’s happiness can be maintained in this way.

When Su-Jen begins school she receives the name Annie, after Annie Oakley, and this will represent an overt change in her identity. While she starts living there and attends Ms. Hinckley’s classes, she actually adjusts to the new culture of *lo fons*⁷. She makes a definite effort in the sense of connecting with her non-Chinese peers, but she learns more about life from Charlotte Heighington. Certainly, the new Annie goes through a process of cultural becoming and deep psychological transformation during which she experiences occasional acts and attitudes of racism, for example when she is warned by her schoolmates not to audition for the lead in the play because it is not connected to the Chinese culture. This casual racism is a painful addition to the situation in her family. She is occasionally bullied or called by racial insults for her race, for example

⁶ Bates, Judy Fong, *Midnight at the Dragon Café*, New York: Counterpoint, 2005, p. 292.

⁷ term by which the Chinese immigrants refer to the Canadians.

when a girl approaches her aggressively: "Hey, chink, where'd you get the bike? ... Did you steal it?"⁸.

Annie is scared, confused and ashamed of her ethnic background during such confrontations possibly due to her education not to stir a conflict or fight, but on the contrary to be polite and deferential. Despite all these issues she faces, she will soon become a successful student, but not even that can help her with more positive thinking:

My academic accomplishments, normally a source of pride, became a source of frustration; she accused me of never listening to her and believing what I read in the lo fon books... My mother's knowledge, on the other hand, seemed to me more like sorcery, absorbed through the spirits of her ancestors. ⁹

She narrates the story of her family with awareness of the significant detail, but she has only come gradually and slowly to a full understanding of the situation. Annie is able to change her views according to the new culture, but her mother, beautiful and still young, cannot do the same. She lives unhappily attached to an older husband with whom she has constant arguments, her dreams being shattered by the memories of her family's prestige and wealth from the times before the Communist regime, missing her friends and connections back there. After Lee-Kung comes to Irvine, Annie learns that both her parents had been previously married and had children that died, and that he is her half-brother whose mother may have possibly committed suicide. Annie is disgusted and hurt by the affair between her mother and particularly when she gets pregnant close to the moment when Lee-Kung's expected mail ordered bride called Mai-Yung comes at his father's strong insistence on settling this situation by an arranged marriage in order to uphold their traditional Chinese values. Such a tradition is hard to understand and accept by Annie's Canadian schoolmates who have never heard of it. The bitter struggle of the Chou family to stay united and dignified is related to the harshness of their lives portrayed by Bates as a world both specifically Canadian and Chinese as presented from an immigrant's perspective.

As a result of this affair Su-Jen has a newly born brother, who is given the same love as she had always received so generously from her mother,

⁸ *Idem*, p. 45.

⁹ *Idem*, p. 65.

even if she had the awareness of giving up on her own life in a motherly sacrificial manner:

I watched my brother curled in my mother's arms and I began to understand how much she loved us and how much she had sacrificed when she arrived in Canada; what she meant when she claimed that her life had been over the moment she stepped off the plane. For my mother the act of living here was in itself an act of love, my mother had given up her own life out of love for me and would do the same for Daniel ¹⁰.

During the affair the family pretended not to know about it, a fact which frustrated Annie even more and she decided to retreat into books and to spend more time at Charlotte's house for psychological comfort. But Charlotte gets drown in the frozen lake and Annie thinks that her death is connected to a prediction a fortuneteller made for herself about the fated dying danger represented by water as being transferred to her best friend. Dealing with pain and death is a major theme in this novel and the most impressive as it is related to a child. However, Annie has adapted to living in Canada embracing the Canadian culture as an escape from the bitterness she has to face at home. She is aware of this transformation when she says: "I played, thought, and dreamed in the language of the *lo fons*"¹¹. Her mother though does not like Su-Jen's alienation from her own culture, reproaching this as in: "You are becoming too much like the *lo fons*, Su-Jen. We are Chinese and we believe in the spirits of our ancestors. It's important to respect them"¹²

Annie has finally made peace with herself by embracing her new identity at the end of the novel, as she grew into a more mature and forgiving person. She had borne a sense of guilt for her family's sacrifice and managed to escape this idea that was tormenting and unbearable. Healing herself from all burdens and pressures she could at last experience a feeling of relief.

My mother looked at me again. "All the people in your family have had hard lives. Except you, Su-Jen".
Listening to my mother I knew she was right. I should

¹⁰ *Idem*, p. 314.

¹¹ *Idem*, p. 48.

¹² *Idem*, p. 120.

be grateful, but at the same time it seemed that everything rested on me, that all the good things in my life and future seemed to be built on not just someone's efforts but someone's sacrifice, someone's misfortune.¹³

Despite the sadness and darkness of secrets that troubled everyone in the Chou family, a positive message of love and forgiveness pervades throughout the book, as the only means by which they could maintain the dignity and unity, a resolution that compensates the pains and hardships, shame and humiliation. "My father looked at me and said, 'We are a family. We do these things to help each other'. I felt a pinprick of shame as I understand all that was unsaid, and nodded my head in agreement"¹⁴. Harmony and happiness within the family are the supreme value worth to fight for and be aware of the importance to protect it under any circumstances and threats.

The question of multiculturalism in the sense of Chris Taylor's and Will Kymlicka's theory is an "odyssey" continuing in the contemporary world enriched in values and practices, integrated in global policies at the international level. The way in which it was adopted officially and contextualized by the Canadian Government of Pierre Trudeau during the 1970s (after the events set in the novel) is an expression of a desired equality. Bates's intercultural perspective of an immigrant family connects to multiculturalism and more generally to diversity in a story about individual achievement that the border-crossing subjects search for. Characters' identity is mainly shaped by recognition or misrecognition within the framework of cultural integration. Su-Jen observes the isolated, small world of her parents for their disconnection with the social sphere outside aggravated by the tensions inside. The myths and customs of Chinese culture are powerful and keep them trapped in a hidden life only they can understand. As compared to her parents, Annie, as a second-generation immigrant, finds her way to adjust to the new culture through learning the language and cultural practices of her Canadian peers. She learns how to deal with the cultural divisions she has been struggling with and overcoming the racialized attitudes of verbal and physical abuse and the quirkiness she is presented with when she misunderstood the Canadian ways.

¹³ *Idem*, p. 246.

¹⁴ *Idem*, p. 153.

Conclusions

Initial hardships in Annie's life are not only caused by being a total stranger to the new world she is in, but also by the way in which her parents and uncle Yat perceive the world they have encountered and how they cling onto their traditions, values and beliefs. These traditions enclosed their perception of the new or rather different ways of seeing the world and by being traditionalist, parents wanted to cage their family to the outer new world for preserving the traditions they think they had to maintain. Her family's aim to preserve traditions due to their being grown up in an environment with different cultural experiences and the ways they learned from those were distinct from the culture they have thrown themselves into and this resulted in a natural desire to preserve the old ways. Main characters were traditionalist and forced strict codes onto family's daily life which caused additional hardships apart from the ones the young protagonist had to deal with for simply being "different" from other children. Despite being culturally rejected by these people of the new world, the urge to escape from forced traditionalism and to discover herself in the new light trapped Annie to a point of partially separating herself from her parents' background to be someone different than who they were. These individualist ideas of the new culture played a huge role in the girl's life by transforming the collectivist nature of her own culture in an endeavour to overcome the assimilation difficulties. Her attempts to find her place in the new cultural context did not always agree with family's expectations, instead they reproached Annie for following the Canadian ways and thinking or feeling in disregard of the old beliefs and traditions of the Chinese spiritual heritage. Being caught up in this situation, the girl painfully experienced an emotional crisis as she felt torn between two cultures. However, this theme is recurrent in ethnic writing. What makes it particular and unique in Bates's fiction is the subtle but eloquent understanding of multiculturalism as an interplay between diversity and inclusion illustrated with a family of immigrants as main characters. Interestingly enough, Chou family live in isolation even from the larger urban community of Chinese immigrants. Su-Jen is an example of how one can overcome cultural divisions by shaping identity from ethnic to hybrid, by patiently enduring adversity and misrecognition and paving the way to transculturalism. As multiculturalism implies cultural diversity, the dialogic interaction between cultures creates the hybridity. In this framework of analysis it means to protect cultural differences while achieving recognition and integration in the new society. Therefore the

novel *Midnight at the Dragon Café* transcends the limits of an immigration story for its complexity of themes, the narrative being informed by the social and political circumstances of those times experienced by a Chinese family and their heartfelt decision to escape the past to find freedom and opportunities in Canada by taking a harrowing chance on a new life. However, the novel is also a broader picture of the hardships encountered by all the newcomers from the struggle to acquire the language, casual acts of racism to poisoning the balance between adopting the new culture and maintaining their own cultural heritage.

Asian-Canadian literature celebrates cultural hybridity through reinscription of characters' personal histories and their ambivalent identity against the background of social and political issues that shape who they are as immigrants in Canada resignified by the acquisition of the new language and culture and through self-identification and recognition by others. This experience as diaspora represents a notable and valuable contribution to Canadian literature.

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REPRESENTATION OF THE SPACE CATEGORY IN THE ENGLISH TERMINOLOGY OF BIOTECHNOLOGY

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Abstract: *This paper deals with the study of the modern English language terminology of biotechnology within the framework of the cognitive paradigm. The study of biotechnological terminology from the standpoint of cognitive linguistics is associated with the study of the role of epistemological categories and their linguistic expression in the studied terminology. It has been established that certain categories play an important role both in the birth of a scientific concept and in the formation of a name reflecting it. The author aims to reveal the functional features of the category of space in the language of biotechnology and to identify a set of tools in the English language that serve to express this category. The epistemological category of space is widely represented in biotechnological terminology, since it has pragmatic significance, which is explained by the need to accurately indicate the specific shape, size, location and movement of objects used by humans for manipulation. Thus, from the point of view of the cognitive approach, one of the bases for the classification of concepts in biotechnological terminology is the category of space. The concepts of space (PLACE, CONTENT, FORM, MOVEMENT) have paramount importance in the formation of biotechnology concepts. Linguistic means of representation of these space concepts are widely represented in the biotechnological terminology of the English language. They are special morphemes, special spatial vocabulary, syntactic constructions, which have space information.*

Keywords: *term, terminology, biotechnology, category of space, cognitive linguistics.*

Introduction

The development of cognitive linguistics opens up new possibilities for the fruitful study of language. In modern linguistic studios, there is a tendency to use cognitive methods in the study of terminological vocabulary, since the cognitive aspects of linguistic research are of greatest interest specifically for terminology. This is explained, first of all, by the conditionality of the emergence of the term by thought processes, its close relationship with the concept and denotation, the cognitive essence of the

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evolution of terminological vocabulary. Our study of the terminology of the field of biotechnology from the standpoint of cognitive linguistics is aimed at studying the role of the category of space and identifying the set of tools in the English language that serve to express this category.

Biotechnology is one of the relatively young subject areas in the process of its formation. Developments in the field of biotechnology have become one of the top priorities in the economic policy of the leading countries of the world economy. Biotechnology as a scientific and technical branch opens up unprecedented horizons of human interaction with the world of biological objects in order to improve them.

The object of research in this article is the English-language special (terminological) vocabulary, which nominates the concepts of the biotechnological sphere. The choice of biotechnology terminology as the object of research is not accidental. From a linguistic point of view, this area of knowledge is characterized by a special, still emerging biotechnological terminology, which is formed mainly in the English language. Biotechnology is not just one of the scientific, technical and highly specialized professional areas of human activity, the emergence of this science and the discoveries made within its framework have significantly changed the nature of the relationship between the technosphere and the biosphere, technical and technogenic objects and man proper.

The complexity of the object of research (English biotechnological terminology) lies in the fact that the science of biotechnology itself at the beginning of the 21st century was transformed into a complex science, combining several dozen sections and directions and characterized by the use of terms borrowed from the terminologies of related disciplines – biochemistry, genetics, microbiology, biology, bioethics, medicine and other sciences. Biotechnology (not in vain this term is often used in the plural) is the integration of sciences, which, no doubt, is reflected in the corresponding terminology.

It should be emphasized that the study of the English language terminology in the field of biotechnology is no longer at an early stage. The relevance of the study of language in the field of biotechnology is evidenced by the numerous works of linguists who have recently paid some attention to this problem. The relevance of the study of the language

of biotechnology is evidenced by the investigations of S. Vasilieva^{1,2}, A. Gainutdinova, Mukhtarova A.³, T. Kudinova⁴, E. Myshak^{5,6}, L. Rogach⁷, A. Sirotin⁸, E. Siroтина^{9, 10, 11}, who have recently paid some attention to this problem.

Despite the large number of works devoted to biotechnological terminology, it has not received sufficient coverage in the cognitive aspect, the features of its conceptualization and categorization. Until now, there are no works devoted to the categorical analysis of the English language vocabulary in the field of biotechnology. The study and description of terminological units and methods that serve to implement the categorical meanings of biotechnological terminology have not yet been the subject of a separate study, therefore it contains many unresolved issues and determines the relevance of the study. Setting ourselves the goal of studying the linguistic representations of the most important ontological category – space, we thereby defined a cognitive approach to the study of

¹ S.L. Vasil'yeva; D.F. Mymrina, Motivirovannost' terminov sfery biotekhnologiy. *Filologicheskiye nauki. Voprosy teorii i praktiki*. No. 9 (51), Vol. 1, 2015, pp. 52-55.

² S.L. Vasil'yeva, Morfologicheskiye osobennosti odnokomponentnykh terminov sfery biotekhnologiy v russkom i angliyskom yazykakh. *Filologicheskiye nauki. Voprosy teorii i praktiki*, No. 2 (44), 2015, pp. 51-54.

³ A. Z. Gainutdinova; A.D. Mukhtarova, Structural and semantic features of multicomponent terms in the field of biotechnology. *EurAsian Journal of Biosciences*. Vol. 13 (2), 2019, P. 1463-1466.

⁴ T.A. Kudinova, *Strukturno-semanticheskiye osobennosti mnogokomponentnykh terminov v pod"yazyke biotekhnologiy (na materiale russkogo i angliyskogo yazykov): avtoref. dis. ... kand. filol. nauk: spets. 10.02.19 – teoriya yazyka*. Orel, 2006, 21 p.

⁵ O.O. Myshak, Strukturno-semantichni osoblyvosti suchasnoyi biotekhnolohichnoyi terminolohiyi. *First independent scientific journal*. No.21, 2017, pp. 27-31.

⁶ O.O. Myshak, The classification of English biotechnological terminology. *Studia Humanitatis*, (2), 2019.

⁷ L. Rogach, Semantic Phenomena Characterizing English Terminology of Biotechnology. *Modern research in foreign philology*. Vol. 17, 2019, pp. 112–120.

⁸ A. Syrotin, Multi-Component English Terms of Biotechnology Sphere. *Cogito. Multidisciplinary Research Journal*. Vol. 9. No 3, 2017, pp. 78-86.

⁹ E. Syrotina, Linguocognitive aspect of metaphorization in the English language terminology of biotechnology sphere. *Cogito-Multidisciplinary research Journal*, Vol. 2. 2020, pp. 202-212.

¹⁰ E. Syrotina, Anthropomorphic metaphor in the English terminological system of biotechnology. *The Journal of V. N. Karazin Kharkiv National University. Series "Philology"*. Vol. 84. 2020, pp. 62-65.

¹¹ E. Syrotina, Synonymic relations in the English language terminology of biotechnology field. *Studia Humanitatis*, (2), 2020.

biotechnological terminology. The system of knowledge about the world, reflecting the cognitive experience of a person, is characterized by the unification of concepts, in which, along with others, the concept of space is considered one of the most essential for the construction of the entire conceptual system. Spatial concepts and relationships play an important role in language. Our interest in space as a source for explaining the cognitive features of a biotechnological term is also due to the fact that the spatial approach is traditionally used to describe biological objects in natural sciences.

The purpose of our work

The purpose of our work is to study the role of the space category and its linguistic expression in the English biotechnological terminology from the standpoint of cognitive linguistics.

Materials and methods of research

The research material was a sample of more than 8,00 terminological units of modern English related to the field of biotechnology, selected from specialized dictionaries, scientific papers on biotechnology problems, Internet sites dedicated to the creation and production of new modified organisms and products. The main methods used in the study were sampling of language material, definition analysis, classification, as well as comparative analysis.

The analysis of the scientific literature

One of the key concepts in the description of human cognitive activity is the concept of categorization. The study of the processes of categorization of natural objects and phenomena and the ways of their reflection in language has been developed in numerous research papers on cognitive linguistics (E. Bekisheva 2007; N. Boldyrev 2001, 2006; O. Ivanova 2004).

E. Kubryakova 1996, 2004; V. Novodranova, 1997; O. Ryabko, 2012; E. Sloeva, 2007. Analysis of the works of these linguists showed that a person in the process of analysis, generalization distributes his existing knowledge in groups, i.e. categorizes them. This is due to the need to group objects that she perceives as similar or dissimilar in any way with the available standard.

Space is one of the fundamental conceptual categories, since, as the results of numerous studies show, it is spatial representations that

underlie the formation of many fundamental concepts of human consciousness.

The peculiarities of human perception and description of space have always played a key role in works performed in the mainstream of the cognitive direction.

The relevance of the study of spatial problems is evidenced by numerous publications by O. Boguslavskaya¹², N. Boldyrev¹³, A. Velikoretsky¹⁴, V. Gak¹⁵, E. Evtushenko¹⁶, V. Korneva¹⁷, E. Kubryakova¹⁸, M. Kunizhev¹⁹, E. Pupynina²⁰, A. Ruchkina²¹, I. Skrynnikova²², etc.

In the works of these researchers, a general understanding of space as an ontological, conceptual and semantic category is presented and, accordingly, different types of spaces are described: material and non-material, physical and non-physical, within which the types of spaces are

¹² O. Yu. Boguslavskaya, *Prostranstvo i peremeshcheniye*. Yazyk. Kul'tura. Gumanitarnoye znaniye. *Nauchnoye naslediyе G. O. Vinokura i sovremennost'*. Moscow: Nauchnyy mir, 1999, pp. 173–181.

¹³ N. N. Boldyrev, *Kognitsionnaya semantika: Kurs lektsiy po angliyskoy filologii*. Tambov: Izd-vo Tamb. un-ta, 2000, 123.

¹⁴ A.D. Velikoretskiy, *Prostranstvo v sovremennykh zapadnogermanskikh i russkom yazykakh: Opyt postroyeniya metayazyka. Issledovaniya po teorii grammatiki*. Vol. 2. *Grammatikalizatsiya prostranstvennykh znacheniy v yazykakh mira*. Moscow: Russkiye slovni, 2002, pp. 8–34.

¹⁵ V.G. Gak, *Prostranstvo vne prostranstva. Logicheskiy analiz yazyka. Yazyki prostranstv*. Otv. red. N. D. Arutyunova, I. B. Levontina. Moscow: Yazyki russkoy kul'tury, 2000, 127–134.

¹⁶ Ye. N. Yevtushenko, *Kontsept "prostranstvennaya oriyentatsiya" v angliyskoy i russkoy lingvokul'turakh: Avtoref. dis... kand. filol. nauk*. Volgograd, 2004, 24 p.

¹⁷ V.V. Korneva, *Prostranstvennyye otnosheniya kak otrazheniye yazykovoy kartiny mira. Mezhekul'turnaya kommunikatsiya i problemy natsional'noy identichnosti: Sbornik nauchnykh trudov / Otv. red. L. I. Grishayeva, T. G. Strukova*. Voronezh: VGU, 2002, pp. 371–379.

¹⁸ Ye. S. Kubryakova, *O ponyatiyakh mesta, predmeta i prostranstva. Logicheskiy analiz yazyka. Yazyki prostranstv*. Otv. red.: N. D. Arutyunova, I. B. Levontina. Moscow: Yazyki russkoy kul'tury, 2000, pp. 84–92.

¹⁹ M.A. Kunizhev, *Ob"yem znacheniya ponyatiynoy kategorii "prostranstvo" (na materiale sovremennogo angliyskogo yazyka). Semantika, funktsiya i grammaticheskiye kategorii leksicheskikh yedinits. Mezhdouzovskiy sb. nauchnykh trudov*: Pyatigorsk, 2004, pp. 77–86.

²⁰ Ye. V. Pupynina, *Mekhanizmy formirovaniya kontsepta "prostranstvo" sinonimichnymi sushchestvitel'nymi abstraktnoy semantiki: Avtoref. dis... kand. filol. nauk*. Belgorod, 2004, 21 p.

²¹ A.S. Ruchkina, *Nekotoryye aspekty izucheniya kategorii "prostranstvo" v sovremennoy lingvistike. Vestnik MGLU. Vyp. 465. Realizatsiya mezhdistsiplinarnoy paradigmy v razlichnykh tipakh teksta*. Moscow, 2002, pp. 127–133.

²² I.V. Skrynnikova, *Verbalizatsiya kontsepta "prostranstvennaya lokalizatsiya" v angloyazychnoy lingvokul'ture: Avtoref. dis... kand. filol. nauk*. Volgograd, 2004, 23p.

distinguished with varying degrees of granularity (mental, social, intellectual, etc.) ... The materials of these publications can be considered as a theoretical and methodological basis for researching linguistic means of objectification of space, spatial objects and spatial relations.

The analysis of publications on spatial issues showed that the material presented in them is characterized by a variety of approaches and research objectives, but its totality gives a clear idea of the objective complexity of structuring the mental image of space in the mind of a person, of its multidimensionality and diversity. The studies carried out also show how and on what grounds the formation of new mental structures occurs, which cognitive signs are activated in this case.

Characteristic of the space category

The ability to categorize is the ability to classify and distribute perceived phenomena into groups based on the selection of criteria according to which they are considered representatives of the same category. The categorization mechanism is referred to the level of conceptual structure, indicating its direct connection with the language²³.

Categorization occurs unconsciously, and a person thinks about its existence only in problem situations. Choosing one or another linguistic means, the speaker offers a certain way of understanding an object or event and relies on the collective experience of categorizing the world in language, which is reflected in linguistic knowledge. Any knowledge a person receives is the result of categorizing the world around him²⁴.

Various scientific disciplines have their own set of categories based on existential (ontological) categories as the most abstract quantities that are integral characteristics of reality and reflect its most general properties and connections.

The main category for the terminology of all scientific disciplines is the category "space". This can be explained by the historical factor, which is based on the process of perception of the world. According to E.S. Kubryakova, space is what contains a person, what he is aware of around him, what he sees in front of her²⁵.

²³ N.N. Boldyrev, *Kognitivnaya semantika: Kurs lektsiy po angliyskoy filologii*. Tambov: Izd-vo Tamb. un-ta, 2000, p. 42.

²⁴ Ibid, p. 39.

²⁵ Ye. S. Kubryakova, *Yazyk i znaniye: Na puti polucheniya znaniy o yazyke: Chasti rechi s kognitivnoy točki zreniya. Rol' yazyka v poznanii mira*. Moscow: Yazyki slavyanskoy kul'tury, 2004, p. 465.

Proponents of cognitive linguistics, following E. Kubryakova, present space as a "container", that is, a schematized, simplified representation of an object, which allows one to model one of the principles of human cognition, in which the spatial understanding of the world is associated with the representation of any object as a container for another object.

The complex structure of the space category in a language is defined by many linguists. So, for example, scientists distinguish basic units in it, representing mental images of such phenomena as place, length, distance (proximity / remoteness), movement (movement), position, direction, space boundaries, gravity, receptacle, object. All these elements of the semantic category have their own means of expressing the subject of linguistic conceptualization.

The space category as one of the fundamental conceptual categories in the field of biotechnology

It should be emphasized that the language of biotechnology in modern English is a complex system correlated with a certain professional field of human activity, aimed at creating and using genetically transformed biological objects (for example, transgenic plants, somatic hybrids, etc.).

The very meaning of the word biotechnology (from the Greek *bíos* – life and *techné* – art and *logos* – teaching) indicates the creation of biological objects in an artifactly created space.

The epistemological category of space is widely represented in biotechnological terminology, since it has pragmatic significance, which is explained by the need to accurately indicate the specific shape, size, location and movement of objects used by humans for manipulation. Thus, from the point of view of the cognitive approach, one of the bases for the classification of concepts in biotechnological terminology is the category of space.

Our research is aimed at identifying the features of the choice of linguistic means for describing spatial concepts, which are determined not only by the tasks of biotechnology, the place and function of terms in the scientific and cognitive process, but also by the originality of the choice of types of spatial categorization.

Trying to highlight the spatial characteristics, we turned to the analysis of the development of spatial representations in philosophy, physics, psychology. It turned out that in accordance with modern scientific ideas about space, the following properties are attributed to it:

extension, connectedness, three-dimensionality, symmetry, asymmetry, shape, size, distance, location, the presence of system boundaries, etc.

On the basis of this, and also based on the results of the analysis of the linguistic material, the basic concepts were identified: PLACE, CONTENT, FORM, MOVEMENT, which are the main constituents of the conceptual system and more often than others find their linguistic objectification.

The vast majority of biotechnology terms contain a structural element denoting locative relationships. The concept of PLACE as a starting point for categorizing reality is the main constituent of the conceptual system, which is of great importance for the formation of concepts with the topological characteristics of biotechnology objects in biotechnological terms.

Our research has shown that the spatial concept of PLACE in the terminology of biotechnology is represented by two groups of terms: 1) expressing the locations of biological objects used to form the final biotechnological product (*cambial zone, gene bank, gene library, genomic library*); 2) serving for the nomination of the place in which biotechnological processes are carried out (*in vitro* (lat.) – growing plant objects "in glass" (*test tube, flask, bioreactor*) on artificial nutrient media under aseptic conditions²⁶.

Verbalization of the concept of PLACE in biotechnology terminology is characterized by the use of special spatial vocabulary, for example, *bank, bud, locus, line, zone, region, site, nucleus, tunic*.

One way to represent the concept of PLACE in the English professional language of biotechnology is the use of Latin words that undergo changes of a semantic nature to explain the new realities of science. In the 70s of the twentieth century with the development of cell engineering (direction in biotechnology) appeared the following terms: *in vivo* (from the Latin for "in living") - growing live material in natural conditions; *in vitro* (from Latin) - a term referring to experiments that use conditions that do not violate the integrity of a living organism. In other words, growing plant objects "in glass" (test tubes, flasks, bioreactors) on artificial nutrient media in aseptic conditions; *in silico* - in a computer file, the use of data bases of DNA and protein sequence to help answer biological questions. This is a growing area of biology as the amount of

²⁶ *Glossary of biotechnology and genetic engineering* / Ed. A. Zaid, H.G. Hughes, E. Porceddu, F. Nicholas: Food and Agriculture Organization of the United Nations, 1999. 135 p.

genomics and proteomics data continues to grow[1]; *in situ*: (Latin for “in place”) Meaning in the natural place or in the original place. 1. Experimental treatments performed on cells or tissue rather than on extracts from them. 2. Assays or manipulations performed with intact tissues²⁷.

The concept of PLACE in biotechnology terminology is also represented in the internal form of terms through the use of terms with characteristic semantics. The most popular in the English biotechnological terminology are derivational models, where the signs of space are expressed by attaching spatial prefixes to the substantive basis (bases). These include prefixes of Greek origin (endo-, exo-, pan-, hemi-, epi-, para-) and Latin origin (infra-, intra-, sub-, retro-, inter -).

Derivative analysis of biotechnological terms indicates that the prefixes exo-, epi- call the methods of distribution, placement on the surface of what is called the basis, for example: *exogenous, exogamy, exotoxin, epistasis, epidermis, epiphyte, epicotyl, episome, etc.*

The endo- prefix indicates the spread of something within something that is motivated by a derivative stem: *endoderm, endodermis, endomitosis, endocytosis, endonuclease, endopolyploidy.*

The prefix extra- in biotechnological terminology, in contrast to the common language, where it expresses the highest quality of someone or something, in the process of term formation is used to denote stay outside what is called the formative basis: *extranuclear, extrachromosomes, extrachromosomal, etc.*

The inter- prefix means "among something", "between certain groups", indicates the connection between certain groups, concepts: *intercalary, internode, interference, intermolecular, interleukin, intersex.*

The intra- (intro-) prefix conveys the meaning “within”, “within something”: *intracellular, intracytoplasmic, intrageneric, intraspecific.*

The prefix hypo - in the terminology of the biotechnology sublanguage is ambiguous and is used to denote: a) placement, finding in relation to what is called the forming stem: *hypomorph, etc.*; b) disorders, a decrease in what is called the formative basis: *hypoploid, hypobiosis, hypochlorite, hypomorph, hypothesis, hypoplasia.*

The use of metaphors in biotechnology terminology is also typical for representing the concept of the location of biological objects, for example:

²⁷ *Glossary of biotechnology for food and agriculture.* Retrieved from www.fao.org/3/y2775e/y2775e07.htm#TopOfPage 31.

*intergenic regions, terminator region, cloning site, constant domains, hypersensitive sites, recognition site, hypervariable region, cambial zone, embryo sac, variable domain, insertion site, flanking region, gene bank, gene library, genomic library*²⁸.

Spatial relations associated with the concept of PLACE in the field of biotechnology form the meanings of terms obtained by means of metaphorical formation. Such terms are formed as a result of a figurative nomination, that is, on the basis of the identification of a special object with an object that has already received a verbal form in the language. For example, here are the terms used to describe the location of biological objects: *intergenic regions, terminator region, cloning site, constant domains, hypersensitive sites, recognition site, hypervariable region, cambial zone, embryo sac, variable domain, insertion site, flanking region, gene bank, gene library, genomic library, accessory bud, integration-excision region*.

The expression of metric characteristics (the concepts of FORM and SIZE) of objects in biotechnological terminology has its own characteristics, which consist in the wide use of geometric nomination and naming by comparing the spatial features of concepts.

To represent the concept of FORM in biotechnological terminology, three terminological methods are used: literal description of the form of biological objects using word-formation or syntactic means and metaphorical transfer.

The FORM concept finds its linguistic expression in the terminology of the biotechnology sphere in the use of special vocabulary: both nouns, for example, *helix, ascus, capsule, blastomere, crown*, and adjectives, for example, *ciliate, circadian, allometric, asymmetric, mosaic, diplotene*, etc.

When studying the category of space in the English biotechnological terminology, attention should be paid to the fact that it actively uses standard derivational models, where an onomasiological feature is an indication of various properties of space. The studied terminology is characterized by terminological models with structural elements of an attributive phrase, for example, *double helix, hairpin loop, folded genome, sieve cell, sieve element, sieve plate, sieve tube; circular DNA, double-stranded DNA, folded genome*, etc.

²⁸ E. Syrotina, Linguocognitive aspect of metaphorization in the English language terminology of biotechnology sphere. *Cogito-Multidisciplinary research Journal*, Vol. 2. 2020, 209 p.

The first component in these phrases marks the metric characteristic (the concept of FORM), the second indicates the concept of OBJECT.

The most common type of semantic term formation, in which the concept of FORM is reflected, is metaphorical formation. The use of metaphor as a means of structuring a conceptual system is justified by the metaphorical nature of thinking in the process of generating scientific terminology.

The analysis of biotechnology terms made it possible to identify several subgroups reflecting the concept of FORM, which were conventionally called metaphorical models of strand (*template strand, template strand, lagging strand, coding strand*), *lambda chain, non-coding strand, non-template strand, leading strand*); line (*cell line, cell strain, packaging cell line, germ line, pure line*); form (*zig-zag-DNA, double helix, sieve cell, sieve element, sieve plate, sieve tube, equatorial plate*); point (*wilting point (WP), hot spot*)²⁹.

We believe that the concept of movement should also be included in the relevant space characteristics. "Movement forms space, ... space in no case exists by itself, it is not given in advance, it arises only together with life ..."³⁰.

First of all, it is important to determine the very understanding of movement. In its most general philosophical meaning, movement means change as such. Sensually we perceive only some specific form of movement. In science, there are physical, chemical, biological and social forms of movement. In our study, we consider a form of movement that is associated with biochemical processes taking place in an artifactally created space. The terms of biotechnology, expressing various types of movement of biological objects by their manipulation (through genetic engineering) objectify spatial properties characterized by kinetic features.

A distinctive feature of the content of terms of this kind is the presence of a kinetic seme that marks the movement itself or its result. These semes have a wide variety of kinetic characteristics of movement related to the conceptualization of kinetic features in space. The variety of types of the category of movement is always associated with the means of its reflection in the language, primarily with prefix-suffix derivatives. Among the most productive prefixes, with the help of which biotechnological terms reflecting the concept of movement are formed, are

²⁹ E. Syrotina, Linguocognitive aspect of metaphorization in the English language terminology of biotechnology sphere. *Cogito-Multidisciplinary research Journal*, Vol. 2, 2020, 208 p.

³⁰ N. L. Shamne, Universal'nyye kharakteristiki kategorii prostranstva i yadernyye sredstva ikh reprezentatsii v yazyke. *Croatia et Slavica Iadertina*, Zadar, 2009, 392 p.

the prefixes of Grecolatin origin de- (*decomposition*), di- (*dialysis, diffusion*), in- (*inbreeding*), inter- (*interference, interaction*), re - (*regeneration*), trans- (*transcription, transformation, translation*), ultra- (*ultrasonication*), ex- (*excision, explantation, expression*).

The most productive suffixes involved in the formation of biotechnological terms in English that form nouns with the meaning of an action or process are the following: -ion, -tion (*expression, recombination, regeneration, transcription, transformation, translation, replication*); -ing (*cloning, splicing, sequencing, inbreeding, engineering, crossing, breeding, mapping, profiling*).

A significant number of terms represented by the spatial concept of MOVEMENT are also represented by metaphors. Metaphorical terms in the sphere of biotechnology, verbalizing ideas about objects and processes, reflect the desire to synthesize new and already known in the metaphor. The use of a ready-made linguistic name occurs on the basis of most often "usual" stereotypical associations.

In the process of researching the semantic content of the resulting terminological units nominating movement, the characteristic types of metaphorically formed terms were determined: 1) metaphorical terms that appeared in biotechnology terminology as a result of semantic rethinking of a common literary word, for example: *chromosome jumping, chromosome landing, chromosome walking*; 2) borrowed and rethought elements of the conceptual spheres of various sciences: chemistry, physics, medicine, biology, molecular biology, for example: *gene flow, cell fusion, gene transfer, gene translocation, gene splicing, genetic drift, gene sequencing, gene replacement*.

Conclusions

In this article, we tried to determine the functional features of the space category in the language of biotechnology in a cognitive aspect. Having studied the role of spatial representations in the language, we identified the main space concepts (topological and metric) and analyzed the features of the formation and ways of expressing spatial meanings in biotechnological terminology in various nomination systems: at the level of words, terminological word formation and terminology.

Analysis of the studied terminology in the field of biotechnology made it possible to formulate the following conclusions.

The concepts of space (FORM, PLACE, CONTENT, MOVEMENT) are of paramount importance in the process of forming the concepts of

biotechnology. From a cognitive point of view, one of the bases for the classification of most concepts is spatial characteristics.

In the process of forming knowledge about manipulations with biological objects, spatial concepts are singled out, of which in the foreground are the concepts associated with metric (FORM) and topological properties of space (PLACE). These concepts are verbalized primarily in English biotechnological terms.

Means of representation of spatial concepts (FORM, PLACE, CONTENT, MOVEMENT) are widely represented in the biotechnological terminology of the English language. These can be specialized spatial morphemes, special spatial vocabulary, terms created on the basis of metaphorical transfer and syntactic constructions that carry space information. In the studied terminology, multicomponent terms are most actively used, indicating various properties of space.

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