GLOBAL ISSUES IN EDUCATION AND RESEARCH

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ABSTRACT

Educational systems differ from one country to another, but all share certain characteristics. Among the most prevalent is the pressure for schools to respond to local economic demands and to make the necessary policies and strategies to assure efficient and skillful human capital. Therefore, the main issues considering financing the education sector, the existence of educational corruption, and the problems of education quality are among the issues that exist in every region undergoing economic change, hence they are considered universal issues.

KEYWORDS

Education, Education corruption, Education quality, Education expenditure, Sustainable Development Agenda (SDG 4).

1. Introduction

Almost a decade after signing to the Education 2030 Sustainable Development Agenda(SDG 4), the world leaders main target is to *ensure inclusive and equitable quality education and promote lifelong learning opportunities for all* .[1].

In the table below, we represent a list of the main targets of the 2030 agenda for sustainable development education goal.

Table 1. Targets of the 2030 agenda for sustainable development education goal (SDG 4)

Target 4.1	By 2030, ensure that all girls and boys complete free, equitable and quality primary and secondary education leading to relevant and effective learning outcomes
Target 4.2	By 2030, ensure that all girls and boys have access to quality early childhood development, care and pre-primary education so that they are ready for primary education
Target 4.3	ensure equal access for all women and men to affordable and quality technical, vocational and tertiary education, including university
Target 4.4	Substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent work and entrepreneurship
Target 4.5	Eliminate gender disparities in education and ensure equal access to all levels of education

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	and vocational training for the vulnerable, including persons with disabilities, indigenous peoples and children in vulnerable situations	
	Ensure that all youth and a substantial	
Target 4.6	proportion of adults, both men and women,	
	achieve literacy and numeracy.	
	Ensure that all learners acquire knowledge	
	and skills needed to promote sustainable	
	development, including, among others,	
	through education for sustainable	
Target 4.7	development and sustainable lifestyles,	
Target 4.7	human rights, gender equality, promotion of a	
	culture of peace and non-violence, global	
	citizenship and appreciation of cultural	
	diversity and culture's contribution to	
	sustainable development.	

The question now is, where do the different countries stand? And what are the main issues and obstacles the nations have to conquer to meet their goals by the year 2030?

We are going to discuss some of the global issues that represent obstacles in the education sector considering: Finance and Administration, Educational corruption, and lastly the quality of education.

2. FINANCE AND ADMINISTRATION

It has been affirmed in the Oslo Summit on Education (July 2015) and the Third International Conference on Financing for Development (Addis Ababa, July 2015) that achieving the fourth Goal of Sustainable Development (SDG 4) requires a significant increase in financing.

Surely, reaching this objective demands sustained, innovative, well-targeted and well-managed financing, especially in those countries in development.

However, recognizing the finance and resource challenges, the Oslo Summit established a high-level Commission on the Financing of Global Education Opportunities as a decisive first step to reinvigorate the case for investment in education and reverse the current underfunding.[2]

The Commission surely approved the important role of the efforts to increase domestic and national funding of the countries. But, at the same time, international public finance plays a crucial role in complementing the efforts of countries to mobilize public resources domestically, especially in the poorest and most vulnerable countries with limited domestic resources. Alternative and innovative funding approaches will also be needed.

The Commission did also put crucial references points to determine the funding needed to achieve the SDG-4: • allocating at least 4% to 6% of gross domestic product (GDP) to education;

• allocating at least 15% to 20% of public expenditure to education.

According to the latest calculated percentage of government expenditure allocated to education for each country, represented in the table below, as a percentage of GDP, countries spend an

average of 3.71 percent (World) on education. Latin America and Caribbean (LAC) spend an average of 4.43 percent; East Asia &Pacific (EAP) region spends approximately 3.23 percent; Europe and Central Asia (ECA) spends an average of 4.68 percent; Middle East and North Africa (MENA) spends approximately 3.77 percent; Sub-Saharan Africa (SSA) spends approximately 3.44 percent; and South Asia spends an average of 2.86 percent. We can observe that most of the countries in the MENA Region, and countries with middle income and low middle income have allocated less than 15% to the education sector, while least developed countries (according to the UN classification) allocations have only reached 12% in the year 2020 .

Although, comparing the percentage of Regions can be misleading, due to the existence of differences between the countries. For instance, some countries in the MENA Region are ranked among the highest: Ethiopia (24%), Tunisia (22%), Burkina Faso (22%) and Senegal (21%).

Table 2. Government expenditure on education, total (% of government expenditure) by Country and Government expenditure on education, total (% of GDP) by Country

	Government expenditure on education, total (% of government expenditure)			Government expenditure on education, total (% of GDP)		
Country Name	Rank	Value	Last calculated year	Rank	Value	Last calculated year
Sierra Leone	1	34,24419022	2020	10	8,809550285	2020
Solomon Islands	2	31,88999939	2020	4	12,75	2020
Turkmenistan	3	27,99839973	2020	196	3,120650053	2019
Namibia	4	24,80791092	2021	8	9,640491486	2021
Honduras	5	24,59828949	2021	29	6,438438892	2020
Ethiopia	6	24,00155067	2018	66	5,06867981	2018
Venezuela, RB	7	23,8731308	2017	245	1,344079971	2017
Iran, Islamic Rep.	8	23,13994026	2020	163	3,592430115	2020
Nicaragua	9	22,81999969	2020	96	4,630000114	2020
Tunisia	10	22,66534042	2015	21	7,32434988	2016
Burkina Faso	11	22,66116905	2018	47	5,519075871	2020
Belize	12	22,17474747	2021	12	8,707014084	2021
Aruba	13	21,85375023	2016	49	5,491350174	2016
Costa Rica	14	21,53948021	2020	26	6,710669994	2020
Chile	15	21,36606979	2018	51	5,433169842	2018
Guatemala	16	21,1411705	2020	184	3,299720049	2020
Senegal	17	21,08209038	2021	48	5,497858047	2020
Togo	18	20,799963	2021	130	3,991246223	2020
Hong Kong SAR, China	19	20,62105942	2020	113	4,406340122	2020
Uzbekistan	20	20,53565025	2020	79	4,922790051	2020
Tanzania	21	20,50494003	2018	185	3,297790289	2021
Burundi	22	20,43853951	2021	68	5,040983677	2020
Tajikistan	23	19,91206932	2021	44	5,712900162	2019
Kiribati	24	19,27183914	2021	5	12,39466	2019

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Syrian Arab Republic	25	19,18404961	2009	64	5,130139828	2009
Indonesia	26	19,15280151	2020	212	2,841850042	2019
Zimbabwe	27	19,0398407	2018	144	3,866110086	2018
Kenya	28	19,03519058	2018	86	4,799036026	2021
St. Vincent and the Grenadines	29	19,01264	2018	45	5,693779945	2018
Puerto Rico	30	18,9016304	2021	39	6,072659969	2014
Saudi Arabia	31	18,78787804	2021	15	7,809313774	2020
Ghana	32	18,59816933	2018	141	3,886130095	2018
South Africa	33	18,41724014	2021	35	6,192880154	2020
El Salvador	34	18,13002014	2021	175	3,385159969	2019
Micronesia, Fed. Sts.	35	18,10730934	2019	7	9,697050095	2018
Dominican Republic	36	18,01491928	2021	100	4,618702412	2020
Moldova	37	17,9937706	2020	30	6,388720036	2020
Mozambique	38	17,9349308	2020	34	6,260588646	2020
Congo, Rep.	39	17,87835121	2021	108	4,448618889	2020
Peru	40	17,87413979	2021	122	4,246679783	2020
West Bank and Gaza	41	17,71245003	2019	56	5,318870068	2018
Benin	42	17,70918083	2018	203	3,003662109	2020
Greenland	43	17,43354416	2019	6	10,5601902	2018
Jamaica	44	17,31398964	2019	42	6,027470112	2021
Iceland	45	17,24921989	2018	20	7,561709881	2018
Morocco	46	16,86082077	2021	24	6,754302025	2020
Sao Tome and Principe	47	16,58419037	2021	69	5,01138401	2020
Barbados	48	16,58019638	2021	28	6,453624725	2021
Mexico	49	16,57785034	2018	121	4,254220009	2018
India	50	16,54015923	2020	105	4,474229813	2020
Belarus	51	16,53804016	2021	73	4,952449799	2020
East Asia & Pacific	52	16,53417969	2019	188	3,234369993	2019
Kyrgyz Republic	53	16,47274971	2019	54	5,366749763	2019
Mongolia	54	16,42383003	2020	74	4,940889835	2019
Malaysia	55	16,37462044	2021	134	3,916970015	2020
Bhutan	56	16,24025917	2021	46	5,675891876	2019
Early- demographic dividend	57	16,23362446	2020	154	3,741580009	2019
Samoa	58	16,21499062	2020	84	4,809160233	2020
Algeria	59	16,2131691	2021	37	6,100359917	2019
Marshall Islands	60	16,16671944	2020	1	15,75	2019

Brazil	61	16,1483593	2018	38	6,088510036	2018
Mauritius	62	16,11787987	2020	103	4,608170033	2020
New Zealand	63	16,08296013	2018	40	6,048500061	2018
Guyana	64	16,0032196	2018	107	4,45058012	2018
Mali	65	15,95777512	2021	153	3,763431311	2020
Latin America & Caribbean (excluding high income)	66	15,92708969	2020	97	4,624351263	2020
Latin America & Caribbean	67	15,92708969	2020	109	4,432691097	2020
Norway	68	15,91753006	2018	16	7,644110203	2018
Eswatini	69	15,89000034	2020	71	4,995297909	2021
Cyprus	70	15,67893028	2017	43	5,718530178	2017
Sweden	71	15,66701984	2018	17	7,640840054	2018
Palau	72	15,65655231	2019	22	6,809999943	2019
Switzerland	73	15,53279972	2018	83	4,863259792	2018
Israel	74	15,52122021	2018	36	6,112339973	2018
Madagascar	75	15,51618958	2021	200	3,095706224	2020
Faroe Islands	76	15,41215134	2019	18	7,640104771	2019
Uruguay	77	15,39081955	2021	90	4,703259945	2019
Botswana	78	15,35271645	2019	11	8,739999771	2020
Latin America & the Caribbean (IDA & IBRD countries)	79	15,3368597	2020	110	4,432691097	2020
Chad	80	15,12629032	2021	206	2,908510447	2020
Gabon	81	15,12352657	2021	192	3,181609392	2020
Cabo Verde	82	15,1129818	2021	19	7,584794998	2020
Yemen, Rep.	83	15,08859921	2012	62	5,15143013	2008
San Marino	84	15,05992031	2019	176	3,379699945	2019
Africa Western and Central	85	15,05085325	2021	193	3,173885345	2020
Upper middle income	86	15,02551937	2020	111	4,427424908	2020
Guinea-Bissau	87	15	2017	215	2,708427668	2020
Cote d'Ivoire	88	14,97817993	2021	168	3,443016052	2020
Cameroon	89	14,89108181	2021	194	3,166161299	2020
Korea, Rep.	90	14,81999969	2010	106	4,458079815	2018
Middle income	91	14,81815052	2020	151	3,819960117	2019
Vietnam	92	14,81748962	2021	129	4,061970234	2019
Colombia	93	14,74662971	2020	77	4,933100224	2020
Fragile and conflict affected situations	94	14,64414024	2018	179	3,328534961	2018
Haiti	95	14,64414024	2018	243	1,632069945	2018
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International Journal on Cybernetics & Informatics (IJCI) Vol. 11, No.4, August 2022

Lower middle income	96	14,61266041	2020	158	3,689790726	2019
Africa Eastern and Southern	97	14,56409168	2020	102	4,608170033	2020
St. Lucia	98	14,46759033	2021	165	3,575210094	2020
Fiji	99	14,46442032	2021	67	5,067880154	2019
Middle East & North Africa (excluding high	100	14,46348	2019	180	3,32583499	2019
income) East Asia & Pacific (excluding high income)	101	14,4071703	2020	187	3,234369993	2019
East Asia & Pacific (IDA & IBRD countries)	102	14,4071703	2020	189	3,234369993	2019
Low & middle income	103	14,39853811	2020	145	3,865040064	2020
IDA & IBRD total	104	14,38990593	2020	139	3,893035769	2020
Sub-Saharan Africa (excluding high income)	105	14,38990593	2020	170	3,443016052	2020
Sub-Saharan Africa	106	14,38990593	2020	171	3,443016052	2020
Sub-Saharan Africa (IDA & IBRD countries)	107	14,38990593	2020	172	3,443016052	2020
Russian Federation Heavily	108	14,34107971	2018	93	4,678199768	2018
indebted poor countries (HIPC)	109	14,29006004	2020	186	3,277851582	2020
Philippines	110	14,23373985	2020	142	3,880000114	2020
Bolivia	111	14,19999981	2020	9	8,899999619	2018
World	112	14,13446045	2019	156	3,711319923	2019
Kazakhstan	113	14,10953045	2019	211	2,856970072	2019
IDA blend	114	14,09466934	2019	164	3,575389862	2019
Grenada	115	14,04117012	2017	167	3,552550077	2018
IDA total	116	14,04063988	2020	169	3,443016052	2020
Congo, Dem. Rep.	117	14,00765991	2017	217	2,700000048	2021
Iraq	118	14	2016	89	4,710000038	2016
Lao PDR	119	14	2017	231	2,230000019	2020
Djibouti	120	13,99153042	2018	160	3,627739906	2018
Lesotho	121	13,65828991	2021	13	8,702640533	2021
IDA only	122	13,56187963	2020	178	3,330549717	2020
Australia	123	13,47729015	2018	65	5,123449802	2018

International Journal on Cybernetics & Informatics (IJCI) Vol. 11, No.4, August 2022

Denmark	124	13,4382	2018	23	6,792779922	2018
Europe & Central Asia (IDA & IBRD countries)	125	13,43000031	2019	136	3,916650057	2019
Malta	126	13,36942005	2017	95	4,651629925	2017
Comoros	127	13,35365009	2015	224	2,545059919	2015
Estonia	128	13,35336971	2018	57	5,26320982	2018
United Kingdom	129	13,34407997	2018	60	5,167990208	2018
Pre- demographic dividend	130	13,33253956	2020	195	3,166161299	2020
Ireland	131	13,32429028	2018	174	3,392869949	2018
Nepal	132	13,18999958	2020	114	4,389999866	2020
North America	133	13,14618015	2018	80	4,912330151	2018
United States	134	13,14618015	2018	82	4,912330151	2018
Ukraine	135	13,08636761	2020	50	5,441299915	2019
Middle East & North Africa (IDA & IBRD countries)	136	13,05174017	2019	181	3,32583499	2019
Turks and Caicos Islands	137	13,00747013	2021	104	4,494299889	2021
Europe & Central Asia (excluding high income)	138	12,93375874	2020	135	3,916650057	2019
Netherlands	139	12,91154957	2018	55	5,357649803	2018
Bulgaria	140	12,73095036	2017	128	4,075270176	2017
Tonga	141	12,65264988	2021	14	7,959630013	2019
Argentina	142	12,5300703	2019	88	4,724170208	2019
South Asia	143	12,51737499	2020	209	2,860664964	2019
South Asia (IDA & IBRD)	144	12,51737499	2020	210	2,860664964	2019
Sudan	145	12,47558022	2021	239	2,022130013	2009
OECD members	146	12,42586994	2018	81	4,912330151	2018
Turkiye	147	12,42586994	2018	117	4,294069767	2018
Least developed countries: UN classification	148	12,37802029	2020	198	3,095706224	2020
Low income	149	12,37802029	2020	199	3,095706224	2020
British Virgin Islands	150	12,3629303	2021	222	2,590500116	2020
Macao SAR, China	151	12,30000019	2020	32	6,300000191	2020
Egypt, Arab Rep.	152	12,26000023	2020	227	2,480000019	2020
Middle East & North Africa	153	12,23249006	2020	152	3,765284896	2019
Canada	154	12,21914005	2011	58	5,262050152	2011

International Journal on Cybernetics & Informatics (IJCI) Vol. 11, No.4, August 2022

Belgium	155	12,21549988	2018	31	6,381370068	2018
Post- demographic dividend	156	12,21549988	2018	75	4,935870171	2018
Oman	157	12,2049799	2020	52	5,413209915	2019
Late- demographic dividend	158	12,1374898	2020	131	3,989310145	2019
Albania	159	12,06999969	2020	197	3,099999905	2020
Thailand	160	12,06492233	2020	205	2,968980074	2019
Poland	161	11,99291134	2019	101	4,615799904	2018
Guinea	162	11,9788866	2021	232	2,199470043	2020
Panama	163	11,97052956	2021	138	3,906071424	2020
Niger	164	11,95261955	2021	147	3,837612629	2020
Arab World	165	11,91267014	2020	173	3,427919984	2019
Kuwait	166	11,91267014	2020	27	6,551259995	2020
Singapore	167	11,91199303	2020	226	2,506659985	2020
Maldives	168	11,90775013	2021	126	4,121590137	2019
Cambodia	169	11,82999992	2019	235	2,162859917	2018
High income	170	11,75430965	2018	87	4,769209862	2018
Europe & Central Asia	171	11,74643993	2018	92	4,678199768	2018
Finland	172	11,74643993	2018	33	6,275420189	2018
Lithuania	173	11,74273014	2018	140	3,892930031	2018
United Arab Emirates	174	11,70623016	2020	143	3,879869938	2020
Bangladesh	175	11,69087029	2021	246	1,326320052	2019
Pakistan	176	11,59167957	2019	225	2,507550001	2019
Ecuador	177	11,51441956	2020	125	4,134130001	2020
Zambia	178	11,51414013	2021	157	3,70240283	2020
Malawi	179	11,49765015	2020	207	2,907619953	2020
Azerbaijan	180	11,4832201	2021	219	2,681080103	2019
Brunei Darussalam	181	11,44194984	2016	112	4,425409794	2016
Gambia, The	182	11,35991955	2018	214	2,763717175	2020
Slovenia	183	11,33996964	2018	76	4,935870171	2018
Rwanda	184	11,31956482	2021	149	3,821561575	2021
Uganda	185	11,25	2020	220	2,665053129	2021
Germany	186	11,22558022	2018	72	4,975769997	2018
Euro area	187	11,1865449	2018	85	4,805515051	2018
Georgia	188	11,17018986	2020	146	3,850080013	2020
Latvia	189	11,14750957	2018	123	4,243569851	2018
St. Kitts and Nevis	190	11,11999989	2020	116	4,300000191	2019
European Union	191	11,11289978	2018	98	4,622829914	2018

International Journal on Cybernetics & Informatics (IJCI) Vol. 11, No.4, August 2022

Afghanistan	192	10,88010979	2021	191	3,213779926	2019
Afghanistan	192	10,81206036	2021	94	,	2019
Portugal Central Europe		,			4,675159931	
and the Baltics	194	10,81090975	2018	120	4,25524497	2018
Austria	195	10,71942043	2018	59	5,224520206	2018
Myanmar	196	10,56412983	2019	237	2,139869928	2019
China	197	10,52999973	2020	166	3,569999933	2020
Czech Republic	198	10,50891972	2018	118	4,26692009	2018
Seychelles	199	10,48375034	2021	63	5,150725365	2020
Romania	200	10,46096039	2018	177	3,344749928	2018
Andorra	201	10,26000023	2021	208	2,880000114	2021
Bahamas, The	202	10,12944984	2021	213	2,782222271	2021
Suriname	203	10,10748959	2021	70	5,007072449	2020
Hungary	204	10,08428955	2018	99	4,622829914	2018
Spain	205	10,0303297	2018	124	4,181570053	2018
Japan	206	9,950750351	1998	201	3,077820063	2018
Antigua and Barbuda	207	9,903226852	2021	148	3,836245775	2021
Sri Lanka	208	9,899999619	2019	240	1,929999948	2019
Lebanon	209	9,89828968	2020	221	2,592020035	2019
Jordan	210	9,859749794	2019	204	2,988470078	2019
Mauritania	211	9,727089882	2020	241	1,881160021	2020
France	212	9,717340469	2018	53	5,407169819	2018
Paraguay	213	9,642350197	2021	182	3,303621531	2020
Slovak Republic	214	9,527130127	2018	132	3,972569942	2018
Papua New Guinea	215	9,227100372	2018	242	1,874830008	2018
Central African Republic	216	9,088691711	2021	234	2,166697025	2020
Nauru	217	9,082306862	2018	61	5,16704607	2020
Qatar	218	8,936825752	2021	190	3,233669996	2020
Caribbean small states	219	8,929389954	2021	41	6,027470112	2021
Trinidad and Tobago	220	8,929389954	2021	127	4,103740215	2020
Italy	221	8,795740128	2018	119	4,256140232	2018
Luxembourg	222	8,658579826	2018	159	3,647490025	2018
North Macedonia	223	8,640879631	2002	183	3,300149918	2002
Serbia	224	8,604599953	2019	161	3,616470098	2019
Croatia	225	8,600079536	2018	137	3,907550097	2018
Bahrain	226	8,489999771	2019	236	2,152053356	2020
Dominica	227	8,293609619	2021	91	4,69630003	2020
Armenia	228	8,278089523	2021	216	2,705670118	2020
Liberia	229	8,147789955	2018	218	2,692179441	2021

International Journal on Cybernetics & Informatics (IJCI) Vol. 11, No.4, August 2022

Libya	230	8,138730049	1999	229	2,264169931	1999
Timor-Leste	231	7,881289959	2018	25	6,727479935	2018
Bermuda	232	7,773469925	2017	247	1,324959993	2017
Greece	233	7,417409897	2018	162	3,597340107	2018
Angola	234	6,919610023	2021	228	2,415200233	2020
Equatorial Guinea	235	5,248139858	1998	233	2,187979937	1998
Eritrea	236	5,168069839	2006	238	2,127000093	2006
Nigeria	237	5,140225887	2021	202	3,063689947	1975
Vanuatu	238	5,052800179	2020	230	2,242320061	2020
Monaco	239	5,029270172	2019	249	1,152660012	2019
Somalia	240	4,412380219	2020	248	1,277279973	1973
South Sudan	241	0,867030025	2018	244	1,543900013	2016

Source: World Bank 2022

As for the second reference allocation point, we can see in the table above that most of countries had allocated more than 4% of their Gross Domestic Product to the education sector.

According to this table, 129 countries expend more than 4% of their GDP on education, while 87 countries only allocate between 15% and 20% of their expenditure on education

All in all, we observe that the world is expanding government funding for education today, but there is substantial cross-country – and cross-regional – heterogeneity, and the gap between the least developed countries and developed countries is still significant.

We can justify this existent gap by the fact that, the international financial flows have known a stagnation since the year 2010 [3], which has potentially large effects, particularly within low-income countries that depend substantially on this source of funding for basic education.

In addition to this problem, relying on the World Bank, as the largest source of development capital in the field of international education, has created problems in the administration and policy-making in developing countries. Countries in debt were obliged to engage in the loan covenants and local policy makers have become passive recipients of the Bank's agendas. As a result, the countries over-invested in vocational and technical education. Furthermore, due to the narrow definition of recurrent costs, countries ignored investments in reading materials andmaintaining teacher salaries, and they invested in workshops and laboratories that, for the most part, became useless 'white elephants'. And later, countries were forced to shift public expenditures away from higher education without any prior professional experience with the consequences to sector cohesion. Due to these decisions, the role of the World Bank has been criticised [4] and a call for new education reform in developing countries has become a necessity.

3. CORRUPTION IN EDUCATION

Although the issue of finance and administration is still persistent, the main obstacle to adequate funding for education, is not finding fund resources but rather the misuse of the resources and the existence of corruption.

3.1. Definition of Educational Corruption

The definition of education corruption derives from the more general set of corruption issues. Like other areas, it includes the abuse of authority for material gain. But because education is an important public good, its professional standards include more than just material goods; hence the definition of education corruption includes the abuse of authority for personal as well as material gain [5]

3.2. Categories of Educational Corruption

We can find two main categories in educational corruption. The first broad area would be the existence of corrupted functions, that includes corruption in the selection and evaluation system, for example academic violations, favouritism in school admissions, nepotism, bribery, non-existence of transparent evaluation system.

For instance, the latest reported percentage of people who had to pay a bribe to use the school is 16 % in Africa, compared to 8% in Europe according to the last Global Corruption Barometer survey results in 2021 [6]. On the other hand, there have been many reports from parents, in developing countries like Afghanistan, that government officials and teachers are selling textbooks to students instead of giving them for free as they suppose to do.

The corruption did not stop in the procurement of textbooks and school supplies; there have been evidence of theft and diversion of funds and equipment also. For example, in Kenya, more than \$54 million in education aid funds was misappropriated by ministry officials, and donors pulled the plug.

The second area of corruption is professional misconduct. Since education is a public good, education corruption must include an element broader than illicit material gain for personal use; it must include an element of professional misconduct.

Elements of professional misconduct in education include:

- Accepting material 'gifts' in exchange for any particular treatment like having positive grades, or getting selected to specialized programs;
- Assigning of grades or assessments biased by a student's race, culture, social class, ethnicity, and other ascriptive attributes;
- Sexually or otherwise exploiting, harassing, or discriminating against particular students;
- Adopting an inadequate textbook or educational materials because of a manufacturer's gifts or incentives;
- Forcing students to purchase materials that are copyrighted by the instructor;
- Ignoring the inadequate teaching of colleagues, the unequal treatment of students, or the misconduct of fellow professionals;
- Utilizing school or university private property for personal commercial purposes;
- Accepting the existence of "ghost teachers"...

And other examples of professional misconduct, that differ from one country to another, but surely have cost the nations a lot.

3.3. Costs of Educational Corruption

In addition to its financial or material costs, corruption in education destroys the very purpose of education by the erosion of democratic values, widening the inequality gap between the poor and

the rich, and exposing children to unethical behavior. It also sabotages development by undermining the formation of educated, competent, and ethical individuals for future leadership and the labor force [5].

The table below concludes the main impacts of different corruption areas on education

Table 3. Educational corruptions impact on education

Areas	Corrupt practices	Impact on education
School building, rehabilitation	Fraud in public tenderingEmbezzlementSchool mapping	Access Quality Example: bad location of schools; too high or too low use; demand for places unattended
Equipment, Textbooks, Food	 Fraud in public tendering Embezzlement Bypass of criteria 	Equity Quality Example: school meals free to the rich and not available for the poor; lack of consistency between textbooks and curricula
Teacher appointment/manage ment	FavouritismNepotismBribes	Quality Example: less qualified teachers appointed
Teacher behavior	 "Ghost teachers" Bribes (for school entrance, exams, assessment, private tutoring, etc.) 	Equity Ethics Example: disparity in staffing by schools; discrimination against the poor
Examinations and diplomas	 Selling of information Favouritism Nepotism Bribes Academic fraud 	Equity Ethics Example: unjustified credentials available to students who can afford to pay bribes
Information systems	Manipulating data Selecting/suppressing information	Equity Ethics Policy priorities Example: omitting data on repetition/dropout; less priority on quality improvement
Specific allowances (fellowships, subsidies, etc.)	FavouritismNepotismBribesBypass of criteria	Access Equity Example: inflating enrolment figures to increase financial transfers
Finance	 Transgressing 	Access

rules/procedures	Quality
 Inflation of costs and 	Equity
activities	Policy priorities
Opacity of flow	Example: fewer resources for
 Leakage of funds 	quality
	improvement: textbooks,
	materials,
	etc.

Source: Adapted from Hallak & Poisson, 2002.

Corruption contributes to poor education outcomes. The misuse of school funds deprives already underfunded schools of resources. Accepting behaviors like nepotism and favoritism, which can affect the work production and therefore the economic development of a country, or bid-rigging that can result in textbooks and supplies of inferior quality. Children who are harassed for sex by teachers may drop out of school. When families must pay bribes or fraudulent 'fees' for educational services that are supposed to be free, this puts poor students at a disadvantage and reduces equal access to education.

To sum up, the forms of education corruption may differ from one country to another. But no nation can long ignore the existence of significant costs. The existence of any form of corruption in the educational system of a country, always affects the outcomes and the output of this country. The unqualified human capital produced, became a refrain of the economic development.

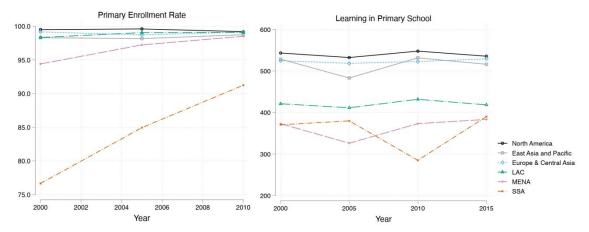
Therefore, the formulation of anti-corruption strategies must be a locally owned, locally made to ensure political adaptation and feasibility. Context mapping, using tools such as political economy analysis, power and influence analysis, and the Integrity of Education Systems (INTES) approach, can help practitioners recognise where corruption problems exist and identify likely allies or opponents of suggested reforms[5].

4. EDUCATION QUALITY

According to the UNICEF, over 600 million children and adolescents worldwide are unable to attain minimum proficiency levels in reading and mathematics, even though two thirds of them are in school. For out-of-school children, foundational skills in literacy and numeracy are further from grasp. [7]

In the last years, policy makers have made a lot of efforts to expand the education system, but the results were evident on the quantity level: increasing the access to education, increasing the mean years of schooling But, on the quality level, problems still persist.

In the figure below, it is clear that MENA region, for instance, had known a continuous increase in its primary enrolment rate, while the learning index in primary school development has known up and downs and still in the same level as it was in the year 2000.



Source: Measuring Human Capital, 2019 [7].

Figure 1. Enrollment versus learning in World Regions

There are numerous factors behind poor education quality: a lack of trained teachers, inadequate education materials and poor infrastructure to name a few.

Compounding these inequities is a digital divide of growing concern: Some two thirds of the world's school-aged children do not have internet connection in their homes, restricting their opportunities to further their learning and skills development.

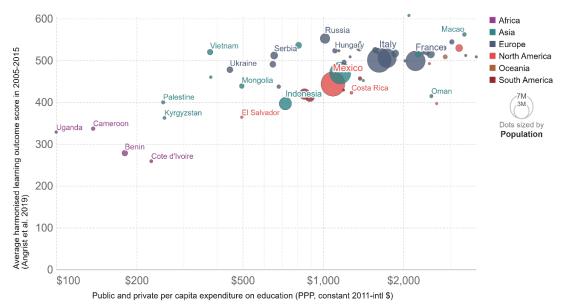
However, without quality education, the main objectif behind education, which is the production of skilled human capital, is not fulfilled. In fact, children face considerable barriers to employment and earning potential later in life.

Nonetheless, as an industry, education is normally divided into three categories: programs (those which offer a degree or certificate), goods (textbooks, teaching materials, equipment) and services (test preparation and testing, consultancy, tutoring, and certification).

In order to judge the quality of education system of any country, we must therefore have accessible and clear data on each one of these categories. However, the lack of correct data in most of the developed countries had refrained the comparison analysis, in fact the quality of educational systems are mostly proxied by the international achievement tests (TIMSS, PISA...), but, such tests are administered primarily in high-income countries, limiting our ability to analyze learning patterns in low- and middle-income countries. The Harmonized Learning Outcomes (HLO) database bridges this gap by constructing a globally comparable database of 164 countries from 2000 to 2017.

The Harmonized Learning Outcome Index measure the learning outcome of one or several of these three dimensions: Reading and language proficiency, Mathematics and numeracy proficiency, and Scientific Knowledge and Understanding.

According to the figure below, representing the average learning outcomes by total education expenditure per capita (including both governmental and household spending on education), while countries may spend the same percentage of GDP on education, learning outcomes vary across countries, with some countries having lower learning outcomes in comparison to other countries with similar expenditure shares.



Source: World Bank (2019)

Figure 2. Average learning outcomes by total education expenditure per capita

This make us believe that the main problem in education quality is not related to increasing financial allocations to the education sector, so what it is the problem?

In the Mena Region , for instance , Heyneman had summarised the main issues that affects education quality [8] : Lack of diversity of textbooks and curriculum , low levels of books and pedagogical materials , misuse of educational resources.

And in the table below, the author tried to categorise the nations school quality into four categories (or levels) according to the indicator: number of textbook per class.

Quality level	Indicator	Production	Example
Level A	1 textbook/class. With some exceptions the teacher has the only available book. Pupils expected to copy the text from the blackboard and memorize.	Rote memorization of unsophisticated and poorly interpreted information.	Uganda, Liberia, Haiti
Level B	1 textbook/student. Each student has access to one book in each subject. Comparatively few prerequisite pedagogical skills.	Major expansion ofinformation and efficiency of presentation; little progress on self- generated skills of learning.	Philippines. Peoples Republic of China
Level C	Several textbook titles available/student; pupils in lower grades work on locally-designed exercises, teacher picks and chooses from	Range of pedagogical programs based upon individual student ability; significant increase in the mastery of cognitive skills.	Malaysia

International Journal on Cybernetics & Informatics (IJCI) Vol. 11, No.4, August 2022

	among the best or the most appropriate available materials; requires significant intellectual independence on the part of teachers.		
Level D	I5 titles to 40 copies/student available in supplementary reading materials in each school in addition to a wide variety of curriculum packages, reference books, maps, dictionaries, film strips, lesson tapes, documentary films and computer-assisted instruction. Significant managerial skills required on the part of teachers at all levels of education.	Self generated habits of learning; ability to investigate new ideas and to recognize strong and weak arguments; major improvement in congitive creativity; wide exposure to culture as well as science.	Japan. U.S.A., Sweden

Source: Heyneman, 2004[9]

To summarize, to obtain a skillful human capital and increase the economy development , the policy-makers have to invest more into improving the quantity and quality of textbooks and curriculum , and increasing the level of books and pedagogical materials , and make more efforts on the quality of their education systems .

5. CONCLUSION

In context where nations are still recovering from the impact of the COVID-19 pandamic, a lot of efforts should be done in order to satisfy the target of the SDG-4 and realise a sustainable development in the education .In this article we have mentioned the main areas that represents some issues in the education system .Financing and administrating the education sector , specially in low income countries , fighting against the educational corruption , and assuring a quality education to benefit from the outcome .

REFERENCES

- [1] UNESCO, « Education 2030 : Incheon Declaration and Framework for Action for the implementation of Sustainable Development Goal 4 », 2015.
- [2] « "The Financial Crisis, Capital Flows, and Global Liquidity" Keynote Speech by Naoyuki Shinohara, Deputy Managing Director, International Monetary Fund, Bank of Korea International Conference 2013, Seoul, Korea, June 3, 2013 », *IMF*.
- [3] S. P. Heyneman, « The history and problems in the making of education policy at the World Bank 1960–2000 », *Int. J. Educ. Dev.*, vol. 23, n° 3, p. 315-337, mai 2003, doi: 10.1016/S0738-0593(02)00053-6.
- [4] S. P. Heyneman, « Education and corruption », *Int. J. Educ. Dev.*, vol. 24, n° 6, p. 637-648, 2004, doi: 10.1016/j.ijedudev.2004.02.005.
- [5] « Comparative country statistics on corruption in education », *IIEP Unesco Etico | Platform on ethics and corruption in education*, 2019. https://etico.iiep.unesco.org/en/comparative-country-statistics-corruption-education.
- [6] « Education ». https://www.unicef.org/education.
- [7] S. P. Heyneman, « The quality of education in the Middle East and North Africa (MENA) », *Int. J. Educ. Dev.*, vol. 17, n° 4, p. 449-466, oct. 1997, doi: 10.1016/S0738-0593(97)00022-9.
- [8] S. P. Heyneman, « International education quality », *Econ. Educ. Rev.*, vol. 23, nº 4, p. 441-452, 2004, doi: 10.1016/j.econedurev.2003.10.002.
- [9] « Worldwide Growth and Institutionalization of Statistical Indicators for Education Policy-Making », p. 13, 2022.
- [10] « Comparative and International Education Bibliography (1997) », p. 32, 2022.
- [11] Unesco, Reimagining our futures together: A new social contract for education. 2021.
- [12] J. Simmons et L. Alexander, « The Determinants of School Achievement in Developing Countries: A Review of the Research », Economic Development and Cultural Change, vol. 26, nº 2, p. 341-357, janv. 1978, doi: 10.1086/451019.
- [13] I. Silova, M. S. Johnson, et S. P. Heyneman, «Education and the Crisis of Social Cohesion in Azerbaijan and Central Asia », Comparative Education Review, vol. 51, no 2, p. 159-180, mai 2007, doi: 10.1086/512022.
- [14] Noam Angrist, Simeon Djankov, Pinelopi K. Goldberg, et Harry A. Patrinos, « Measuring-Human-Capital », 2019.
- [15] A. Ifa et I. Guetat, « Does public expenditure on education promote Tunisian and Moroccan GDP per capita? ARDL approach », The Journal of Finance and Data Science, vol. 4, n° 4, p. 234-246, déc. 2018, doi: 10.1016/j.jfds.2018.02.005.
- [16] S. P. Heyneman et W. A. Loxley, « Influences on Academic Achievement Across High and Low Income Countries: A Re-Analysis of IEA Data », Sociology of Education, vol. 55, nº 1, p. 13, janv. 1982, doi: 10.2307/2112607.
- [17] S. P. Heyneman, K. H. Anderson, et N. Nuraliyeva, « The Cost of Corruption in Higher Education », Comparative Education Review, vol. 52, no 1, p. 1-25, févr. 2008, doi: 10.1086/524367.
- [18] S. P. Heyneman, « Introduction to the Special Issue on Newly Emerging Global Issues », Peabody Journal of Education, vol. 80, nº 1, p. 1-5, janv. 2005, doi: 10.1207/S15327930pje8001_1.
- [19] S. P. Heyneman, « The Use of Cross-National Comparisons for Local Education Policy », Curriculum Inquiry, vol. 34, n° 3, p. 345-352, janv. 2004, doi: 10.1111/j.1467-873X.2004.00299.x.
- [20] S. P. Heyneman, « International Education: A Retrospective », Peabody Journal of Education, vol. 78, nº 1, p. 33-53, janv. 2003, doi: 10.1207/S15327930PJE7801_3.
- [21] S. P. Heyneman, « General Introduction: Global Issues in Education », Peabody Journal of Education, vol. 76, no 3-4, p. 1-6, oct. 2001, doi: 10.1080/0161956X.2001.9681987.
- [22] S. P. Heyneman, « The quality of education in the Middle East and North Africa (MENA) », International Journal of Educational Development, vol. 17, no 4, p. 449-466, oct. 1997, doi: 10.1016/S0738-0593(97)00022-9.
- [23] S. P. Heyneman, « Revolution in the East: The Educational Lessons », p. 13.
- [24] S. P. Heyneman, « How Should Education Be Managed, and How Should Policy Be Decided? », p. 8.
- [25] S. P. Heyneman, « The history and problems in the making of education policy at the World Bank 1960–2000 », International Journal of Educational Development, vol. 23, n° 3, p. 315-337, mai 2003, doi: 10.1016/S0738-0593(02)00053-6.

- [26] J. Hallak, M. Poisson, et International Institute for Educational Planning, Ethics and corruption in education: results from the expert workshop held at the IIEP, Paris, 28-29 November 2001. Paris: International Institute for Educational Planning, 2002.
- [27] J. Hallak et M. Poisson, « Ethics and corruption in education: an overview », p. 17.