



ICTeEfs Students and In-Service Teachers Survey

Results for Needs Analysis

This activity reports the results of the stakeholders' (university students and in-service teachers) derived from a survey questionnaire. These results are part of the needs analysis, following-up the SWOT analysis. The results will directly guide us in the development of the ICTeEfs teaching standards and competences framework upon which subsequent activities such as: 1) capacity building interventions for preparing academic staff, teacher educators and in-service teachers to embed sustainability and SDGs in their curricula and teaching practices.

To this end, two questionnaires- one for students and the other for ICT teacher coordinators and other teachers with basic knowledge on ICT in the partner countries' universities were developed. Both questionnaires were thoroughly discussed during the kick-off meeting and validated. The final questionnaires were disseminated to all partner universities. They were translated into their national languages and distributed to the target groups. For validity purposes, the original questionnaires were translated first in the national languages and then the translated ones were again translated in the original. Comparing the new translation in the original language with the initial, helped us secure the validity in terms of content.

Summary and Recommendations

Students' Survey

The total sample of students that participated in the survey across all the seven partner universities reached up to 1497 students.

University Science Malaysia	240 (16%)
University Technology Malaysia	125 (8%)
Open University Malaysia	61 (4%)
Indonesian University of Education,	156 (10%)
University Gadjah Mada (UGM)	218 (15%)
International University Vietnam	531 (36%)
University of Social Sciences & Humanities (USSH)	166 (11%).

Among the 1497 undergraduate students, 60% come from the 1st year of study and the rest 40% from the last year. In terms of subjects, 87% are related to the fields of education and the remaining 13% come from sciences. In terms of gender, 65% are females, reflecting the student majority in the fields of education.

Brief results, interpretations and recommendations

The students' basic knowledge of ICTs is ranging from sufficient 30% to excellent by 83% and only 2% declared poor knowledge and 15% minimal. A similar trend is found in terms of knowledge related Education for Sustainable Development and knowledge in merging ICT with Education for Sustainable Development.

More specifically, the students' rate on the sustainability justice measurement indicates that to a great percentage, they are highly motivated to accept the principles and values behind sustainability justice. While, they show high rates on sustainability justice motivations, they exhibit a motivation-action gap. This means that they are less found to act for sustainability justice. This implies that action-competences should be given due emphasis in the construction of the ICTeEfS teaching standards and competences framework. The framework should reflect the sustainability justice pillars, namely: environmental justice, social justice, economic justice and cultural justice.

In terms of ICTs infrastructure, students pointed to the lack of interactive whiteboards, video conferencing systems and laptops/notebooks, while they think that other hardware (e.g. PCs) exist in sufficient numbers. Uses related to word-processing predominate, while uses that relate to their ability to construct knowledge such as concept mapping (e.g. Kidspiration, Inspiration), editing, modelling and simulations are left behind (Mean ranges from 2.0 to 2.3 on a 4/point scale). Students also declare that it is too difficult to integrate ICT use into the curriculum (Mean 2.4). In general, they think that there is lack of pedagogical models on how to use ICT for learning (Mean 2.4). This is connected to the lack of trained teacher educators (Mean 2.5) that is also connected to insufficient pedagogical support for students (Mean 2.6) as well as lack of appropriate course content and instructional programs (Mean 2.6). All these have an impact on teacher educators' motivation concerning the use of ICTs in their classes (Mean 2.4). A finding that correspondingly reflects the lack of students' motivation concerning the use of ICTs in their courses and their future classes (Mean 2.5). This is also substantiated by the finding that there is lack of good role models for prospective teachers. (Mean 2.5). These results also seem to be affected by the lack of software and interactive websites that support teaching and learning (Mean 2.6).

These results support the following measures or recommendations:

- For equipment and ICT labs, give priority to interactive whiteboards, videoconferencing and notebooks.
- Give due emphasis on action-competences and transversal skills in the teaching standards and competences framework.
- Frame the teaching standards and competences framework in line of contextualizing ICTs with sustainability issues and vice versa.
- Focus on e-concepting mapping in developing training materials to embed sustainability.

- Deconstruct and reconstruct courses in teacher education and other relevant academic disciplines that cover: a) teaching and curriculum; b) STEAM subjects; c) humanities and languages.
- Adopt inter/cross-disciplinary and active learning approaches with a focus on student-driven learning materials enabled by learning technologies.

In-service Teachers survey

The number ICT teacher coordinators reached up to 1815, of whom the majority (No= 1253 or 69% comes from the three partner institutions in Malaysia as expected, followed-up by the two institutions in Indonesia (No= 360 or 20%) and the two institutions in Vietnam (202 or 11%). In terms of gender, 40% are males and 60% females. 39% of the respondents are functioning as ICT coordinators, 10% were functioning in the past as ICT coordinators, but 51% of the participants identify themselves as ICT-experienced teachers. The majority (56%) are working in the primary school education and most of all the respondents have graduated from teacher education institutions (76%), while 9% graduated from Computer Sciences 12% from applied sciences and 3% from other academic fields.

In terms of geographical distribution, 43% of the teachers work in urban areas, 30% in rural areas and 27% in semi-urban areas. 40% of them have teaching experience from 15 years and up, followed by 28% between 10-14, 20% 5-9 and 12% under 4 years. On the contrary level, the majority (37%) has been involved in teaching with ICTs less than 4 years, followed-up by 32% between 5-9, 20% 10-14 and 11% up to 15 years. A little more than half of them (53%) are knowledgeable about Education for Sustainability above the average to excellent, while only 3% declared poor knowledge.

Brief results, interpretations and recommendations

As in the case of students; survey, similar trends are evidenced regarding the lack of pedagogical models on how to use ICT for learning are lacking, difficulties to integrate ICT use into the curriculum (Mean 2,4) as well as lack of knowledge in pedagogical approaches that are relevant to constructivist and transformative pedagogy, concept mapping skills and use of relevant digital tools (e.g., Kidspiration, Inspiration) are lacking as well (Mean 2,1). In a similar way, using publishing software that could help edit applications such as digital storytelling are lacking (Mean 2,0). More critically, using other ICT-enabled learning technologies such as Wikis (Mean 1,9), Blogs (Mean 2,00), Forums (Mean 1,86) and communication tools (e.g. Skype or similar) are lacking. The mean scores are even less than in the case of students, going down of the threshold Mean of 2.0. There is also evidence of the lack of lack of time for training, exploration and preparation as well as lack of in-service training. The indication of lack of technical, administrative and institutional support, (Mean score 2.6 on a 5/point scale), the lack of time to spend for training need to be considered. In-service teachers surveyed also indicate the lack of incentives for their professional development.

These results support the following measures or recommendations:

- Develop teacher educators and other relevant academic staff in deconstructing, constructing and reconstructing courses to embed sustainability issues.
- Develop tools and rubrics that help teaching staff to embed sustainability issues largely drawn from the 17 SDGs.
- Use hybrid models of teaching and learning as well as for training teachers on ICTeEfS.
- Shift from transmissive to constructivist and transformative approaches to teaching and learning.
- Use participatory approaches in developing learning materials infused with sustainability issues.
- Make use of digital and other learning objects available through open access resources in the Web.
- Instill in teachers the concept of learning pillar of giving and sharing in line with the other 21st pillars of learning.

APPENDICES

UNDERGRADUATE STUDENTS SURVEY

Rate the extent to which you have done the following	<i>MEAN (S.D.)</i>	<i>Not at all (1)</i>	<i>To a slight extent (2)</i>	<i>To a moderate extent (3)</i>	<i>To a large extent</i>	<i>To a great extent</i>
I have learned to use interactive methods enabled by ICTs to discuss local environmental and social issues.	2,92 (1,03)	159 (11%)	271 (19%)	575 (41%)	340 (24%)	65 (5%)
I have learned to use ICTs to engage my future learners in studying local and global issues.	2,92 (1,10)	202 (14%)	238 (17%)	502 (36%)	401 (28%)	63 (5%)
I have learned to use ICTs in ways that could strengthen my future learners' participation in activities outside the classroom.	2,99 (1,08)	177 (13%)	229 (16%)	496 (35%)	442 (32%)	61 (4%)
I have used ICTs in ways that could enhance my future learners' knowledge on local problems.	3,02 (1,04)	150 (10%)	266 (18%)	543 (36%)	460 (31%)	69 (5%)

Rate the extent to which you have done the following	MEAN (S.D.)	Not at all (1)	To a slight extent (2)	To a moderate extent (3)	To a large extent	To a great extent
I have learned to use various learning resources that cut across issues related to sustainable development with the support of ICTs.	3,24 (1,03)	94 (6%)	224 (15%)	547 (37%)	475 (32%)	147 (10%)
I have learned to use my future learners' life experiences to develop their knowledge and skills in using ICTs.	2,99 (1,06)	165 (11%)	273 (18%)	546 (37%)	430 (29%)	78 (5%)
I have learned to use ICTs as a means to integrate my future learners' life experiences on tackling sustainability issues, such as climate change.	2,90 (1,08)	205 (14%)	273 (18%)	535 (36%)	420 (28%)	59 (4%)
I have learned to adjust educational content so that it becomes relevant to my future learners' life outside the school.	2,99 (1,09)	181 (12%)	254 (17%)	546 (37%)	420 (28%)	91 (6%)
I have used ICTs in ways that could promote my future learners' active involvement in solving real-life problems.	3,02 (1,11)	181 (12%)	251 (17%)	532 (36%)	419 (28%)	109 (7%)

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Rate the extent to which you have done the following	MEAN (S.D.)	Not at all (1)	To a slight extent (2)	To a moderate extent (3)	To a large extent (4)	To a great extent (5)
I like to think over what I have been doing and consider alternative ways of doing things.	3,65 (0,84)	6 (0%)	139 (9%)	430 (29%)	709 (48%)	203 (14%)
I often reflect on my actions to see whether I could have improved on what I did.	3,77 (0,84)	3 (0%)	115 (8%)	374 (25%)	732 (49%)	267 (18%)
I often re-appraise my experience so I can learn from it and improve for my next performance.	3,76 (0,84)	5 (0%)	99 (7%)	401 (27%)	715 (48%)	263 (18%)

Rate the extent to which you have done the following	<i>MEAN (S.D.)</i>	<i>Not at all (1)</i>	<i>To a slight extent (2)</i>	<i>To a moderate extent (3)</i>	<i>To a large extent (4)</i>	<i>To a great extent (5)</i>
I often step back and reflect on what I am thinking to determine whether I might be missing something.	3,63 (0,85)	8 (1%)	124 (8%)	490 (33%)	649 (44%)	214 (14%)
I frequently stop to think about where I might be going wrong or right.	3,54 (0,93)	16 (1%)	193 (13%)	473 (32%)	578 (39%)	220 (15%)
As a result of my reflection back I have changed the way of my thinking and behavior.	3,63 (0,83)	6 (0%)	115 (8%)	506 (34%)	662 (44%)	202 (14%)
Reflecting on what I was thinking and doing has challenged some of my firmly held ideas, values and practices.	3,42 (0,83)	7 (0%)	179 (12%)	604 (41%)	560 (38%)	130 (9%)
Reflecting critically on my own values and practices has motivated me to change.	3,60 (0,83)	6 (1%)	123 (8%)	509 (34%)	659 (44%)	189 (13%)
Thanks to my reflection, I discovered faults in what I had previously believed to be right and re-considered them for change.	3,74 (0,84)	4 (0%)	106 (7%)	426 (29%)	692 (46%)	262 (18%)
Reflecting on my previous thoughts, beliefs and practices has motivated me not take things for granted.	3,68 (0,87)	3 (0%)	127 (9%)	459 (31%)	641 (43%)	253 (17%)
Reflecting critically on other people's actions and behaviors increased my responsibility of their own actions.	3,57 (0,85)	7 (0%)	158 (11%)	472 (32%)	675 (45%)	173 (12%)

How much do you agree with the following statements	<i>MEAN (S.D.)</i>	<i>Disagree strongly (1)</i>	<i>Disagree (2)</i>	<i>Neither agree or disagree (3)</i>	<i>Agree (4)</i>	<i>Agree strongly (5)</i>
When I see injustice and do nothing about it, I feel guilty.	3,84 (0,96)	36 (3%)	108 (7%)	284 (19%)	688 (46%)	373 (25%)
Helping those less fortunate than me will change my life.	3,89 (0,85)	17 (1%)	54 (4%)	366 (25%)	694 (46%)	362 (24%)
I appreciate the presence of refugees and immigrants in my city.	3,46 (0,94)	52 (4%)	137 (9%)	561 (38%)	558 (37%)	182 (12%)
The public expression of the identity of the culturally different should be limited.	3,53 (1,02)	50 (3%)	181 (12%)	446 (30%)	560 (38%)	252 (17%)
All groups should feel the need and the right to express their peculiarity in the public space.	3,78 (0,82)	17 (1%)	63 (4%)	407 (27%)	746 (50%)	261 (18%)
Resources should be distributed so that everyone can live a decent life.	3,94 (0,90)	23 (2%)	63 (4%)	323 (22%)	659 (44%)	424 (28%)
Members of the different groups should be treated equally	4,09 (0,84)	15 (1%)	46 (3%)	235 (16%)	680 (46%)	512 (34%)
All people should be equally exposed to environmental pollution and risks.	3,54 (1,33)	185 (12%)	139 (9%)	286 (19%)	439 (30%)	439 (30%)
An alternative to the minimum wage could be a salary that calculates a decent standard of living.	3,83 (0,94)	38 (2%)	85 (6%)	329 (22%)	686 (46%)	354 (24%)
All people must have the opportunity to participate in decisions that can influence them.	4,20 (0,77)	6 (1%)	34 (2%)	184 (12%)	694 (47%)	573 (38%)
Economic activity should be within the bounds of morality.	3,95 (0,83)	16 (1%)	42 (3%)	329 (22%)	711 (48%)	391 (26%)

How much do you agree with the following statements	MEAN (S.D.)	Disagree strongly (1)	Disagree (2)	Neither agree or disagree (3)	Agree (4)	Agree strongly (5)
It is an act of life for me to struggle to build a just and sustainable world.	3,88 (0,82)	17 (1%)	43 (3%)	370 (25%)	734 (49%)	326 (22%)
I can make the difference for a better future.	3,91 (0,79)	11 (1%)	35 (2%)	359 (24%)	753 (51%)	334 (22%)
I feel that we have to claim the common good through our active action on an individual and collective level.	4,01 (0,77)	10 (1%)	34 (2%)	268 (18%)	794 (53%)	381 (26%)
The marginalized people must have their own voice in public affairs.	3,93 (0,81)	14 (1%)	44 (3%)	319 (21%)	761 (51%)	350 (24%)
The interests of today's generations should not be at stake for those who will be born after 50 years.	3,66 (1,08)	66 (4%)	149 (10%)	366 (25%)	549 (37%)	358 (24%)
We must respect the cultural heritage of others as well as ours.	4,23 (0,81)	10 (1%)	41 (3%)	169 (11%)	643 (43%)	629 (42%)
The right to the goods of nature belongs to everyone.	4,05 (0,90)	18 (1%)	65 (4%)	266 (18%)	620 (42%)	522 (35%)
Economic prosperity is not an indicator of the wealth we hold, but how well this wealth is distributed in a fair way.	3,86 (0,88)	20 (1%)	68 (5%)	372 (25%)	661 (44%)	367 (25%)
When I buy products that I like at affordable prices, I do not care about where they come from.	3,02 (1,19)	174 (12%)	356 (24%)	381 (25%)	417 (28%)	162 (11%)

How much do you agree with the following statements	MEAN (S.D.)	Disagree strongly (1)	Disagree (2)	Neither agree or disagree (3)	Agree (4)	Agree strongly (5)
Teaching is more a moral and active engagement than acquiring the knowledge and skills required in the labor market.	3,58 (1,00)	54 (4%)	152 (10%)	397 (27%)	642 (43%)	243 (16%)
I believe that learners are not able to go through their own path of learning.	2,83 (1,13)	209 (14%)	387 (26%)	428 (29%)	376 (25%)	87 (6%)
I believe that learners cannot change the world.	2,23 (1,13)	473 (32%)	500 (33%)	269 (18%)	193 (13%)	53 (4%)
I believe that learners need skills that go far beyond what they have learned at school.	4,00 (0,84)	16 (1%)	51 (3%)	279 (19%)	713 (48%)	430 (29%)
I believe that learners love learning but are oppressed with sterile knowledge.	3,78 (0,92)	26 (2%)	96 (6%)	381 (26%)	664 (44%)	323 (22%)
I believe that learners have a voice and should be heard.	4,19 (0,79)	12 (1%)	24 (2%)	209 (14%)	675 (45%)	571 (38%)
I believe that learners are empty containers waiting to be filled with knowledge.	3,40 (1,20)	131 (9%)	201 (14%)	401 (27%)	454 (30%)	300 (20%)
I believe that learners can make a difference.	4,16 (0,82)	16 (1%)	28 (2%)	218 (15%)	675 (45%)	553 (37%)
I believe that I can get more from my future learners than I can teach them.	3,83 (0,88)	22 (2%)	73 (5%)	378 (25%)	677 (45%)	339 (23%)
I will do all the best to turn my future learners more independent in their think own learning.	3,99 (0,82)	18 (1%)	33 (2%)	298 (20%)	732 (49%)	409 (28%)

How much do you agree with the following statements	MEAN (S.D.)	Disagree strongly (1)	Disagree (2)	Neither agree or disagree (3)	Agree (4)	Agree strongly (5)
I believe that the teacher should fight injustice even at the risk of losing his/her job.	3,87 (0,88)	19 (1%)	56 (4%)	404 (27%)	636 (43%)	376 (25%)
I believe in the advisory role of the teacher.	4,00 (0,82)	15 (1%)	33 (2%)	302 (21%)	718 (48%)	418 (28%)
I believe that the teacher should bring the school to society and society at school.	4,14 (0,78)	11 (1%)	16 (1%)	247 (17%)	692 (46%)	523 (35%)
I believe that the teacher should talk to his/her learners about the causes of an unsustainable world.	3,94 (0,82)	14 (1%)	36 (2%)	352 (24%)	706 (47%)	383 (26%)
I believe that the teacher should aim to teach the transformation of self and society.	4,02 (0,78)	11 (1%)	21 (1%)	307 (21%)	734 (49%)	418 (28%)
I believe that the teacher should see the curriculum as a fixed and prescribed package of knowledge.	3,52 (1,11)	84 (6%)	196 (13%)	367 (25%)	552 (37%)	290 (19%)

Does your Faculty have the following?	YES (1)	NO (0)
Its own written statement about the use of ICT	1190 (83%)	242 (17%)
Its own written statement specifically about the use of ICT for pedagogical purposes	1286 (87%)	199 (13%)
A policy and actions to use ICT for teaching and learning in specific subjects	1287 (88%)	170 (12%)

Regular discussions with students and teaching staff about ICT use for pedagogical purposes	1094 (73%)	403 (27%)
A specific policy or programme to prepare students for responsible internet behaviour	1073 (75%)	358 (25%)
A specific policy about using social networks (Facebook, etc.) in teaching and learning	984 (69%)	437 (31%)
A specific policy to promoting cooperation and collaboration among teachers	698 (49%)	729 (51%)
Scheduled time for students and teachers to meet to share, evaluate or develop instructional materials and approaches	1080 (75%)	363 (25%)

How often do you use the following ICT devices in your studies?	MEAN (S.D.)	Never 1	A few times a year 2	Monthly 3	Weekly 4
Interactive whiteboards	2,52 (1,24)	477 (32%)	238 (16%)	302 (20%)	479 (32%)
Video conferencing systems	2,34 (1,22)	559 (38%)	260 (17%)	283 (19%)	390 (26%)
Learning Management Systems (Moodle etc)	2,64 (1,17)	378 (25%)	253 (17%)	381 (26%)	477 (32%)
Digital photo cameras (including editing software)	2,83 (1,10)	252 (17%)	302 (20%)	390 (26%)	547 (37%)
Word processing (e.g., Word)	3,34 (0,89)	90 (6%)	155 (10%)	401 (27%)	849 (57%)
Databases (e.g., Access)	2,81 (1,17)	325 (22%)	206 (14%)	384 (26%)	578 (38%)
Spreadsheets (e.g., Excel)	3,06 (1,03)	168 (11%)	237 (16%)	420 (28%)	667 (45%)
Graphics (e.g., Paint, Photoshop)	2,83 (1,12)	273 (19%)	268 (18%)	388 (26%)	556 (37%)
Multimedia authoring software	2,62 (1,18)	384 (26%)	257 (18%)	373 (25%)	465 (31%)

Presentation software (e.g., PowerPoint)	3,35 (0,77)	43 (3%)	143 (10%)	551 (37%)	754 (50%)
Internet	3,60 (0,73)	49 (3%)	66 (4%)	321 (22%)	1051 (71%)
Concept mapping (e.g. Kidspiration, Inspiration)	2,44 (1,24)	514 (35%)	215 (15%)	308 (21%)	423 (29%)
Publishing software (e.g., Publisher)	2,28 (1,24)	610 (42%)	208 (14%)	271 (19%)	373 (25%)
Email	3,52 (0,74)	45 (3%)	86 (6%)	415 (28%)	948 (63%)
Wikis	3,00 (1,15)	270 (19%)	153 (11%)	342 (23%)	693 (47%)
Blogs	2,80 (1,20)	348 (24%)	191 (13%)	344 (23%)	590 (40%)
Forums	2,76 (1,19)	355 (24%)	189 (13%)	382 (26%)	545 (37%)
Communication (e.g. Skype or similar)	3,03 (1,15)	258 (18%)	175 (12%)	301 (20%)	730 (50%)
Programming languages (e.g., Logo, C)	2,35 (1,26)	569 (39%)	214 (15%)	248 (17%)	411 (29%)
Modeling software (e.g., Model-It, Stella)	2,05 (1,22)	731 (51%)	199 (14%)	200 (14%)	299 (21%)
Microworlds/Simulations	2,25 (1,27)	639 (44%)	187 (13%)	227 (16%)	383 (27%)
Others: Auto-cad, Cloud, Plaxis	1,87 (1,25)	931 (64%)	69 (5%)	150 (10%)	298 (21%)

How do the following adversely affected ICT use in your studies?	MEAN (S.D.)	Not at all	A little	Partially	A lot
Faculty computers out of date and/or needing repair.	2,76 (0,97)	176 (12%)	385 (26%)	532 (36%)	387 (26%)
Insufficient number of Internet connected computers.	2,77	194 (13%)	348 (24%)	550 (37%)	389

	(0,98)				(26%)
Insufficient Internet bandwidth or speed.	3,00 (0,94)	117 (8%)	305 (20%)	518 (35%)	544 (37%)
Insufficient number of interactive whiteboards	2,54 (0,99)	281 (19%)	392 (27%)	541 (36%)	267 (18%)
Insufficient number of computers.	2,65 (1,00)	242 (16%)	367 (25%)	553 (37%)	327 (22%)
Insufficient number of laptops/notebooks	2,60 (1,01)	266 (18%)	395 (26%)	511 (34%)	322 (22%)
Lack of adequate skills of students	2,76 (0,94)	154 (10%)	416 (28%)	553 (37%)	366 (25%)
Insufficient technical support for students	2,73 (0,93)	159 (11%)	429 (29%)	555 (37%)	343 (23%)
Insufficient pedagogical support for students	2,62 (0,98)	227 (15%)	417 (28%)	539 (36%)	304 (21%)
Lack of adequate content/material for teaching	2,65 (0,99)	229 (15%)	390 (26%)	545 (37%)	323 (22%)
Lack of content in national language	2,41 (0,98)	314 (21%)	478 (32%)	468 (32%)	227 (15%)
Too difficult to integrate ICT use into the curriculum	2,44 (0,95)	280 (19%)	471 (32%)	527 (36%)	199 (13%)
Lack of pedagogical models on how to use ICT for learning	2,49 (0,93)	243 (16%)	494 (33%)	532 (36%)	218 (15%)
Using ICT in teaching and learning not being a goal in our Faculty.	2,31 (1,02)	413 (28%)	396 (27%)	470 (32%)	199 (13%)
Lack of trained instructors	2,54 (0,94)	231 (16%)	463 (31%)	540 (37%)	243 (16%)
Lack of appropriate course content and instructional programs.	2,60 (0,93)	208 (14%)	437 (30%)	572 (39%)	258 (17%)
Lack of motivation of the teacher educators concerning the use of ICTs in their classes.	2,45 (0,98)	300 (20%)	436 (30%)	516 (35%)	223 (15%)

Lack of students' motivation concerning the use of ICTs in their courses and their future classes.	2,55 (0,97)	237 (16%)	461 (31%)	511 (35%)	268 (18%)
Lack of good role models for prospective teachers.	2,52 (0,95)	244 (17%)	450 (31%)	524 (36%)	237 (16%)
Limited understanding on how to integrate ICT into teaching	2,61 (0,93)	199 (13%)	438 (30%)	578 (39%)	263 (18%)
Lack of software or websites that support teaching and learning	2,64 (0,97)	219 (15%)	379 (26%)	550 (38%)	299 (21%)

What importance do you attach to the following?	MEAN (S.D.)	No importance at all	Of little importance	Quite good importance	Very good importance
Better access to technological equipment	3,22 (0,75)	53 (3%)	129 (9%)	741 (50%)	564 (38%)
Reliability of equipment	3,26 (0,69)	13 (1%)	173 (12%)	714 (48%)	587 (39%)
Availability of high quality equipment	3,20 (0,71)	16 (1%)	212 (14%)	723 (49%)	534 (36%)
Training/courses in pedagogical use of ICT	3,20 (0,69)	14 (1%)	189 (13%)	769 (52%)	511 (34%)
Pedagogical ICT-support (e.g. "hotline")	3,08 (0,72)	19 (1%)	270 (18%)	767 (52%)	430 (29%)
Technological hands-on training/courses	3,19 (0,69)	15 (1%)	192 (13%)	766 (52%)	510 (34%)
Technological support (e.g. "hotline")	3,10 (0,72)	23 (1%)	247 (17%)	768 (52%)	443 (30%)
Policies on using ICT across curriculum	3,09 (0,77)	52 (3%)	223 (15%)	757 (51%)	454 (31%)
Time to prepare, explore and develop	3,18 (0,68)	14 (1%)	193 (13%)	790 (53%)	484 (33%)
Task related incentives (salary, promotion etc.)	3,07 (0,77)	43 (3%)	261 (18%)	726 (49%)	453 (30%)

Other (please specify below):	2,10 (1,25)	761 (52%)	88 (6%)	298 (21%)	303 (21%)
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ICT COORDINATORS SURVEY

Rate the extent to which you have done the following	MEAN (S.D.)	Not at all (1)	To a slight extent (2)	To a moderate extent (3)	To a large extent	To a great extent
I have learned to use interactive methods enabled by ICTs to discuss local environmental and social issues.	2,95 (0,82)	86 (5%)	365 (20%)	954 (52%)	376 (21%)	34 (2%)
I have learned to use ICTs to engage my learners in studying local and global issues.	3,00 (0,82)	68 (4%)	352 (19%)	946 (52%)	401 (22%)	48 (3%)
I have learned to use ICTs in ways that could strengthen my learners' participation in activities outside the classroom.	2,71 (0,52)	62 (3%)	398 (22%)	1355 (75%)	0 (0%)	0 (0%)
I have used ICTs in ways that could enhance my learners' knowledge on local problems.	3,01 (0,81)	64 (4%)	347 (19%)	949 (52%)	411 (23%)	43 (2%)
I have learned to use various learning resources that cut across issues related to sustainable development with the support of ICTs.	3,04 (0,82)	68 (4%)	329 (18%)	917 (51%)	458 (25%)	43 (2%)
I have learned to use my learners' life experiences to develop their knowledge and skills in using ICTs.	3,07 (0,80)	55 (3%)	322 (18%)	904 (50%)	498 (27%)	35 (2%)
I have learned to use ICTs as a means to integrate my learners' life experiences on tackling sustainability issues, such as climate change.	2,90 (0,84)	105 (6%)	392 (21%)	929 (51%)	358 (20%)	30 (2%)
I have learned to adjust educational content so that it becomes relevant to my learners' life outside the school.	3,15 (0,84)	60 (3%)	283 (16%)	863 (48%)	548 (30%)	61 (3%)

Rate the extent to which you have done the following	MEAN (S.D.)	Not at all (1)	To a slight extent (2)	To a moderate extent (3)	To a large extent	To a great extent
I have used ICTs in ways that could promote my learners' active involvement in solving real-life problems.	3,11 (0,83)	54 (3%)	331 (18%)	845 (47%)	533 (29%)	50 (3%)

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Rate the extent to which you have done the following	MEAN (S.D.)	Not at all (1)	To a slight extent (2)	To a moderate extent (3)	To a large extent (4)	To a great extent (5)
I like to think over what I have been doing and consider alternative ways of doing things.	3,35 (0,80)	25 (2%)	188 (10%)	838 (46%)	651 (36%)	113 (6%)
I often reflect on my actions to see whether I could have improved on what I did.	3,45 (0,76)	14 (1%)	138 (7%)	793 (44%)	750 (41%)	120 (7%)
I often re-appraise my experience so I can learn from it and improve for my next performance.	3,55 (0,76)	13 (1%)	116 (6%)	692 (38%)	846 (47%)	148 (8%)
I often step back and reflect on what I am thinking to determine whether I might be missing something.	3,44 (0,78)	18 (1%)	155 (9%)	768 (42%)	761 (42%)	113 (6%)
I frequently stop to think about where I might be going wrong or right.	3,36 (0,90)	69 (4%)	197 (11%)	693 (38%)	731 (40%)	124 (7%)
As a result of my reflection back I have changed the way of my thinking and behavior.	3,47 (0,76)	16 (1%)	137 (8%)	752 (41%)	794 (44%)	116 (6%)
Reflecting on what I was thinking and doing has challenged some of my firmly held ideas, values and practices.	3,29 (0,78)	29 (2%)	197 (11%)	899 (49%)	606 (33%)	84 (5%)

Rate the extent to which you have done the following	MEAN (S.D.)	Not at all (1)	To a slight extent (2)	To a moderate extent (3)	To a large extent (4)	To a great extent (5)
Reflecting critically on my own values and practices has motivated me to change.	3,46 (0,78)	18 (1%)	156 (9%)	727 (40%)	801 (44%)	113 (6%)
Thanks to my reflection, I discovered faults in what I had previously believed to be right and re-considered them for change.	3,44 (0,77)	18 (1%)	148 (8%)	789 (43%)	742 (41%)	118 (7%)
Reflecting on my previous thoughts, beliefs and practices has motivated me not take things for granted.	3,45 (0,77)	22 (1%)	121 (7%)	816 (45%)	727 (40%)	129 (7%)
Reflecting critically on other people's actions and behaviors increased my responsibility of their own actions.	3,39 (0,78)	21 (1%)	166 (9%)	809 (45%)	717 (39%)	102 (6%)

How much do you agree with the following statements	MEAN (S.D.)	Disagree strongly (1)	Disagree (2)	Neither agree or disagree (3)	Agree (4)	Agree strongly (5)
When I see injustice and do nothing about it, I feel guilty.	3,98 (0,80)	28 (2%)	82 (4%)	183 (10%)	1122 (62%)	400 (22%)
Helping those less fortunate than me will change my life.	4,02 (0,68)	13 (1%)	46 (2%)	189 (10%)	1209 (67%)	358 (20%)
I appreciate the presence of refugees and immigrants in my city.	3,08 (1,02)	128 (7%)	384 (21%)	612 (34%)	591 (33%)	100 (5%)
The public expression of the identity of the culturally different should be limited.	3,43 (0,88)	34 (2%)	266 (15%)	517 (28%)	882 (49%)	115 (6%)
All groups should feel the need and the right to express their peculiarity in the public space.	3,73 (0,81)	24 (2%)	132 (7%)	364 (20%)	1090 (60%)	204 (11%)

How much do you agree with the following statements	<i>MEAN (S.D.)</i>	<i>Disagree strongly (1)</i>	<i>Disagree (2)</i>	<i>Neither agree or disagree (3)</i>	<i>Agree (4)</i>	<i>Agree strongly (5)</i>
Resources should be distributed so that everyone can live a decent life.	4,09 (0,70)	7 (0%)	46 (3%)	189 (10%)	1099 (61%)	474 (26%)
Members of the different groups should be treated equally	3,99 (0,78)	10 (1%)	91 (5%)	228 (13%)	1057 (58%)	429 (23%)
All people should be equally exposed to environmental pollution and risks.	3,91 (1,06)	93 (5%)	131 (7%)	150 (8%)	919 (51%)	521 (29%)
An alternative to the minimum wage could be a salary that calculates a decent standard of living.	3,90 (0,75)	16 (1%)	67 (4%)	315 (17%)	1101 (61%)	315 (17%)
All people must have the opportunity to participate in decisions that can influence them.	4,05 (0,67)	8 (1%)	40 (2%)	189 (10%)	1185 (65%)	392 (22%)
Economic activity should be within the bounds of morality.	4,07 (0,68)	7 (0%)	25 (2%)	239 (13%)	1107 (61%)	434 (24%)
It is an act of life for me to struggle to build a just and sustainable world.	4,08 (0,65)	10 (1%)	10 (1%)	218 (12%)	1155 (63%)	421 (23%)
I can make the difference for a better future.	4,01 (0,62)	7 (0%)	11 (1%)	260 (14%)	1207 (67%)	329 (18%)
I feel that we have to claim the common good through our active action on an individual and collective level.	4,03 (0,59)	6 (0%)	16 (1%)	208 (12%)	1267 (70%)	316 (17%)
The marginalized people must have their own voice in public affairs.	3,88 (0,70)	11 (1%)	63 (3%)	302 (17%)	1189 (65%)	248 (14%)
The interests of today's generations should not be at stake for those who will be born after 50 years.	3,64 (0,94)	39 (2%)	204 (11%)	397 (22%)	894 (50%)	277 (15%)

How much do you agree with the following statements	MEAN (S.D.)	Disagree strongly (1)	Disagree (2)	Neither agree or disagree (3)	Agree (4)	Agree strongly (5)
We must respect the cultural heritage of others as well as ours.	4,26 (0,64)	8 (0%)	11 (1%)	114 (6%)	1046 (58%)	635 (35%)
The right to the goods of nature belongs to everyone.	4,31 (0,68)	9 (0%)	19 (1%)	119 (7%)	923 (51%)	743 (41%)
Economic prosperity is not an indicator of the wealth we hold, but how well this wealth is distributed in a fair way.	4,08 (0,71)	10 (1%)	37 (2%)	225 (12%)	1071 (59%)	471 (26%)
When I buy products that I like at affordable prices, I do not care about where they come from.	2,81 (1,10)	185 (10%)	664 (37%)	351 (19%)	532 (29%)	83 (5%)

How much do you agree with the following statements	MEAN (S.D.)	Disagree strongly (1)	Disagree (2)	Neither agree or disagree (3)	Agree (4)	Agree strongly (5)
Teaching is more a moral and active engagement than acquiring the knowledge and skills required in the labor market.	3,67 (0,92)	31 (2%)	236 (13%)	264 (14%)	1047 (58%)	237 (13%)
I believe that learners are not able to go through their own path of learning.	2,93 (1,05)	121 (7%)	633 (35%)	377 (21%)	618 (34%)	66 (3%)
I believe that learners cannot change the world.	2,18 (0,91)	352 (19%)	1031 (57%)	210 (12%)	203 (11%)	19 (1%)
I believe that learners need skills that go far beyond what they have learned at school.	4,05 (0,69)	17 (1%)	49 (3%)	144 (8%)	1221 (67%)	384 (21%)
I believe that learners love learning but are oppressed with sterile knowledge.	3,71 (0,82)	15 (1%)	170 (9%)	340 (19%)	1084 (60%)	206 (11%)

How much do you agree with the following statements	<i>MEAN (S.D.)</i>	<i>Disagree strongly (1)</i>	<i>Disagree (2)</i>	<i>Neither agree or disagree (3)</i>	<i>Agree (4)</i>	<i>Agree strongly (5)</i>
I believe that learners have a voice and should be heard.	4,16 (0,59)	7 (0%)	12 (1%)	108 (6%)	1236 (68%)	452 (25%)
I believe that learners are empty containers waiting to be filled with knowledge.	3,79 (1,01)	66 (3%)	200 (11%)	159 (9%)	1011 (56%)	379 (21%)
I believe that learners can make a difference.	4,15 (0,59)	8 (0%)	12 (1%)	111 (6%)	1245 (69%)	438 (24%)
I believe that I can get more from my future learners than I can teach them.	3,87 (0,75)	15 (1%)	97 (5%)	264 (14%)	1173 (65%)	266 (15%)
I will do all the best to turn my future learners more independent in their think own learning.	4,08 (0,59)	4 (0%)	25 (2%)	148 (8%)	1274 (70%)	364 (20%)
I believe that the teacher should fight injustice even at the risk of losing his/her job.	3,47 (0,85)	30 (2%)	180 (10%)	662 (36%)	792 (44%)	151 (8%)
I believe in the advisory role of the teacher.	4,16 (0,58)	8 (0%)	10 (1%)	107 (6%)	1242 (68%)	448 (25%)
I believe that the teacher should bring the school to society and society at school.	4,07 (0,62)	8 (0%)	22 (1%)	176 (10%)	1232 (68%)	377 (21%)
I believe that the teacher should talk to his/her learners about the causes of an unsustainable world.	3,95 (0,63)	6 (1%)	35 (2%)	260 (14%)	1255 (69%)	259 (14%)
I believe that the teacher should aim to teach the transformation of self and society.	4,06 (0,56)	5 (0%)	19 (1%)	152 (8%)	1334 (74%)	305 (17%)

How much do you agree with the following statements	MEAN (S.D.)	Disagree strongly (1)	Disagree (2)	Neither agree or disagree (3)	Agree (4)	Agree strongly (5)
I believe that the teacher should see the curriculum as a fixed and prescribed package of knowledge.	3,80 (0,81)	29 (2%)	134 (7%)	230 (13%)	1199 (66%)	223 (12%)

Does your School have the following?	YES (1)	NO (0)
Its own written statement about the use of ICT	1485 (82%)	330 (18%)
Its own written statement specifically about the use of ICT for pedagogical purposes	1435 (79%)	380 (21%)
A policy and actions to use ICT for teaching and learning in specific subjects	1438 (79%)	377 (21%)
Regular discussions with students and teaching staff about ICT use for pedagogical purposes	1302 (72%)	513 (28%)
A specific policy or programme to prepare students for responsible internet behaviour	1330 (73%)	485 (27%)
A specific policy about using social networks (Facebook, etc.) in teaching and learning	1144 (63%)	671 (37%)
A specific policy to promoting cooperation and collaboration among teachers	1427 (79%)	388 (21%)
Scheduled time for students and teachers to meet to share, evaluate or develop instructional materials and approaches	1368 (75%)	447 (25%)

Does your school reward teachers for using ICT in teaching and learning?	YES	NO
Financial incentives (bonus, increase in salary)	333 (18%)	1482 (82%)
Reduced number of teaching hours	340 (19%)	1475 (81%)
Competitions and prizes	818 (45%)	997 (55%)
Additional training hours	704 (39%)	1111 (61%)
Additional ICT equipment for the classroom	868 (48%)	947 (52%)
Other (What?)	867 (48%)	948 (52%)

How often do you use the ICTs devices listed below in your teaching?	MEAN (S.D.)	Never (1)	A few times a year (2)	Monthly (3)	Weekly (4)
Personal computers	3,39 (0,91)	92 (5%)	260 (14%)	313 (17%)	1150 (64%)
Interactive whiteboards	2,19 (1,28)	820 (46%)	274 (16%)	174 (10%)	493 (28%)
Video conferencing systems	1,73 (0,96)	1008 (55%)	431 (24%)	234 (13%)	140 (8%)
Learning Management Systems (Moodle etc)	1,96 (1,04)	814 (45%)	459 (25%)	340 (19%)	199 (11%)
Audio equipment (including software)	2,72 (1,05)	259 (15%)	511 (29%)	448 (25%)	543 (31%)
Digital photo cameras (including editing software)	2,38 (1,08)	466 (26%)	567 (31%)	402 (22%)	379 (21%)
Word processing (e.g., Word)	3,23 (1,00)	152 (8%)	281 (16%)	375 (21%)	1004 (55%)
Databases (e.g., Access)	2,40 (1,12)	487 (27%)	539 (30%)	359 (20%)	428 (23%)

Spreadsheets (e.g., Excel)	2,89 (1,04)	218 (12%)	431 (24%)	496 (27%)	669 (37%)
Graphics (e.g., Paint, Photoshop)	2,40 (1,04)	422 (23%)	575 (32%)	485 (27%)	331 (18%)
Multimedia authoring software	2,13 (1,03)	622 (34%)	583 (32%)	363 (20%)	245 (14%)
Presentation software (e.g., PowerPoint)	2,83 (1,00)	180 (10%)	542 (30%)	496 (27%)	595 (33%)
Internet	3,41 (0,91)	106 (6%)	218 (12%)	314 (17%)	1174 (65%)
Concept mapping (e.g., Kidspiration, Inspiration)	2,11 (1,07)	683 (38%)	505 (28%)	364 (20%)	259 (14%)
Publishing software (e.g., Publisher)	2,03 (1,03)	699 (39%)	574 (32%)	313 (17%)	224 (12%)
Email	3,10 (1,05)	201 (11%)	318 (17%)	394 (22%)	900 (50%)
Webpage authoring software	1,99 (1,10)	805 (46%)	434 (25%)	252 (14%)	272 (15%)
Wikis	1,93 (1,08)	881 (49%)	417 (23%)	272 (15%)	241 (13%)
Blogs	2,00 (1,05)	766 (42%)	516 (29%)	297 (16%)	231 (13%)
Forums	1,86 (0,97)	835 (46%)	548 (30%)	267 (15%)	161 (9%)
Communication (e.g. Skype or similar)	2,08 (1,12)	770 (43%)	442 (24%)	295 (16%)	306 (17%)
Programming languages (e.g., Logo, C)	1,72 (0,98)	1036 (57%)	391 (22%)	234 (13%)	149 (8%)
Modeling software (e.g., Model-It, Stella)	1,43 (0,76)	1273 (70%)	353 (20%)	128 (7%)	58 (3%)
Microworlds/Simulations	1,60 (0,94)	1162 (64%)	346 (19%)	162 (9%)	141 (8%)

Other (please specify below)	1,50 (0,94)	1224 (72%)	221 (13%)	99 (6%)	144 (9%)
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Is the use of ICT in teaching and learning adversely affected by the following?	MEAN (S.D.)	Not at all	A little	Partially	A lot
School computers out of date and/or needing repair.	2,86 (0,99)	213 (12%)	406 (22%)	627 (35%)	569 (31%)
Insufficient number of Internet connected computers.	2,82 (0,96)	194 (11%)	447 (24%)	672 (37%)	502 (28%)
Insufficient Internet bandwidth or speed.	2,93 (0,93)	144 (8%)	427 (24%)	663 (36%)	581 (32%)
Insufficient number of interactive whiteboards	2,69 (1,13)	380 (21%)	389 (21%)	451 (25%)	593 (33%)
Insufficient number of computers.	2,82 (1,02)	241 (13%)	406 (22%)	610 (34%)	558 (31%)
Insufficient number of laptops and notebooks	2,74 (1,02)	268 (15%)	438 (24%)	601 (33%)	507 (28%)
Lack of adequate skills of teachers	2,70 (0,92)	168 (10%)	593 (33%)	617 (35%)	394 (22%)
Insufficient technical support for teachers	2,79 (0,95)	180 (10%)	505 (28%)	651 (36%)	479 (26%)
Insufficient pedagogical support for teachers	2,67 (1,02)	206 (11%)	553 (31%)	708 (39%)	347 (19%)
Lack of adequate content/material for teaching	2,61 (0,93)	240 (13%)	562 (31%)	684 (38%)	329 (18%)
Lack of content in national language	2,47 (0,95)	317 (17%)	593 (33%)	636 (35%)	268 (15%)
Too difficult to integrate ICT use into the curriculum	2,40 (0,89)	300 (16%)	687 (38%)	627 (35%)	200 (11%)
Lack of pedagogical models on how to use ICT for learning	2,50 (0,90)	261 (14%)	632 (35%)	680 (38%)	241 (13%)
School time organisation (fixed lesson time, etc.)	2,60 (0,94)	248 (14%)	559 (31%)	672 (37%)	335 (18%)
School space organization (classroom size and furniture, etc)	2,63 (0,97)	271 (15%)	500 (28%)	678 (37%)	363 (20%)
Pressure to prepare students for exams and tests.	2,66 (0,96)	243 (13%)	520 (29%)	655 (36%)	395 (22%)

Most parents not in favour of the use of ICT at school.	2,39 (1,01)	435 (24%)	524 (29%)	573 (31%)	283 (16%)
Most teachers not in favour of the use of ICT at school	2,31 (0,98)	453 (25%)	566 (31%)	578 (32%)	218 (12%)
Lack of interest of teachers	2,38 (0,97)	395 (22%)	576 (32%)	602 (33%)	241 (13%)
No or unclear benefit to use ICT for teaching	2,28 (0,97)	462 (25%)	577 (32%)	574 (32%)	202 (11%)
Using ICT in teaching and learning not being a goal in our school.	2,11 (0,99)	629 (35%)	518 (28%)	504 (28%)	163 (9%)
Lack of in-service training,	2,57 (0,92)	244 (14%)	593 (33%)	677 (37%)	300 (16%)
Lack of appropriate software, hardware, and materials,	2,68 (0,95)	212 (12%)	551 (30%)	651 (36%)	401 (22%)
Lack of appropriate course content and instructional programs.	2,58 (0,92)	236 (13%)	600 (33%)	664 (37%)	313 (17%)
Lack of technical, administrative and institutional support,	2,59 (0,95)	257 (14%)	565 (31%)	647 (36%)	344 (19%)
Crowded classrooms.	2,70 (1,02)	279 (16%)	458 (25%)	598 (33%)	479 (26%)
Inadequate number of ICT-related courses.	2,57 (0,96)	284 (16%)	540 (30%)	657 (36%)	332 (18%)
Lack of motivation of the teacher educators concerning the use of ICTs in their classes.	2,53 (0,95)	288 (16%)	571 (31%)	654 (36%)	299 (17%)
Lack of motivation of the prospective teachers concerning the use of ICTs in their courses and their future classes.	2,50 (0,95)	306 (17%)	574 (32%)	651 (36%)	281 (15%)
Lack of good role models for prospective teachers.	2,50 (0,94)	306 (17%)	560 (31%)	683 (38%)	263 (14%)
Lack of time for training, exploration and preparation.	2,68 (0,93)	200 (11%)	557 (31%)	675 (37%)	380 (21%)
Lack of models of good practice in ICT.	2,58 (0,93)	253 (14%)	565 (31%)	695 (38%)	301 (17%)

Negative attitudes towards computers in education.	2,33 (0,95)	401 (22%)	631 (35%)	559 (31%)	222 (12%)
Computer anxiety and a lack of confidence.	2,37 (0,93)	361 (20%)	634 (35%)	600 (33%)	218 (12%)
Fear of change and a lack of personal change management skills.	2,35 (0,93)	373 (21%)	634 (35%)	604 (33%)	202 (11%)
Limited knowledge on how to make full use of ICT	2,54 (0,92)	218 (12%)	631 (35%)	677 (38%)	272 (15%)
Lack of time in school	2,59 (0,95)	265 (14%)	558 (31%)	651 (36%)	340 (19%)
Limited understanding on how to integrate ICT into teaching	2,56 (0,89)	229 (12%)	613 (34%)	702 (39%)	270 (15%)
Lack of software or websites that support teaching and learning	2,51 (0,93)	287 (16%)	596 (33%)	657 (36%)	274 (15%)

What importance do you attach to the following?	MEAN (S.D.)	No importance at all	Of little importance	Quite good importance	Very good importance
Better access to technological equipment	3,27 (0,72)	29 (2%)	199 (11%)	837 (46%)	750 (41%)
Reliability of equipment	3,24 (0,71)	29 (2%)	205 (11%)	885 (49%)	694 (38%)
Availability of high quality equipment	3,24 (0,70)	30 (2%)	194 (11%)	906 (50%)	684 (37%)
Training/courses in pedagogical use of ICT	3,25 (0,70)	29 (2%)	193 (11%)	893 (49%)	699 (38%)
Pedagogical ICT-support (e.g. "hotline")	3,19 (0,74)	36 (2%)	246 (14%)	878 (48%)	654 (36%)
Technological hands-on training/courses	3,22 (0,73)	32 (2%)	232 (13%)	851 (47%)	699 (38%)
Technological support (e.g. "hotline")	3,19 (0,72)	33 (2%)	231 (13%)	913 (50%)	637 (35%)

Policies on using ICT across curriculum	3,16 (0,73)	32 (2%)	263 (14%)	906 (50%)	613 (34%)
Time to prepare, explore and develop	3,24 (0,71)	23 (1%)	224 (12%)	869 (48%)	698 (39%)
Task related incentives (salary, promotion etc.)	3,06 (0,82)	76 (4%)	329 (18%)	811 (45%)	598 (33%)
Other (please specify below):	2,16 (1,19)	835 (46%)	179 (10%)	470 (26%)	331 (18%)

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