

Disentangling Inclusive Primary Physical Education from the Teachers' Perspective

Claude Scheuer, University of Luxembourg, Luxembourg, claud.scheuer@uni.lu

Sandra Heck, University of Luxembourg, Luxembourg, sandra.heck@uni.lu

Susan Marron, Dublin City University, Ireland, susan.marron@dcu.ie

Frances Murphy, Dublin City University, Ireland, frances.murphy@dcu.ie

Vasiliki Pitsia, Dublin City University, Ireland, pitsiavasiliki@gmail.com

Abstract

Teachers have themselves the best insight into the requirements related to including children, especially those with additional needs, in primary physical education. Therefore, a quantitative survey using an online questionnaire was administered to teachers concerned with the implementation of physical education at primary schools in Europe. The overall response rate (N=1206) was relatively high but shows clear differences between the countries. It reports that 58.3% of the children are taught physical education by specialist teachers (against 36.7% by generalist teachers) and that 36.6% of the children are always included in physical education lessons. Generally, over 80.0% of the teachers ranked inclusion in primary physical education as important in their countries and 65.4% rated their competence to include children with additional needs in their physical education lessons as good or very good. Nevertheless, the results also suggest that teachers are not able to include all children in the lesson without further support and a particular emphasis on motor, physical and emotional needs of children is required. Finally, teachers would welcome in particular video case scenarios, templates of visual resources, video and audio recordings of support personnel and guidance on adapting activities.

Keywords: inclusion, primary education, physical education, additional needs, quantitative survey

Introduction

Inclusion requires teachers to develop methods and strategies to fully include all children especially those with additional needs (AN) in school physical education (PE). In the interest of the holistic development of young children, generalist primary school teachers teach all subjects of the curriculum in many countries while other countries have specialists PE teachers or both. Literature highlights the challenges teachers experience teaching PE, particularly as non-specialist teachers, and thus, the practices adopted by PE teachers are critical to the success of true inclusion policies (Heck & Block, 2020; Qi & Ha, 2012; Vickerman, 2012). As it is challenging for teachers to find information and resources related to inclusion in PE in one specific platform, the Erasmus+ funded strategic partnership *Disentangling Inclusion in Primary Physical Education* (DIPPE; <https://ec.europa.eu/programmes/erasmus-plus/projects/eplu-project-details/#project/2018-1-LU01-KA201-037316>) proposes to develop a central platform for an online resource consisting of inclusive PE strategies.

One first initial step in preparing the above-mentioned online resource for teachers was to enquire how the current situation regarding inclusive primary PE in Europe looks like and to ask teachers what guidance and support they would welcome to facilitate the inclusion of children with AN. Therefore, an online survey was prepared and implemented by the project partners, with the following objectives: (1) to map the current situation with regard to including children in primary PE, especially those children with AN; and (2) to identify guidelines and resources that teachers of PE would welcome to support them in including children with AN in their primary PE lessons.

Methods

Data Collection

A quantitative study using an online questionnaire was applied. All project partners' feedback on the development of the questionnaire was welcomed and additionally partners agreed to disseminate both the pilot and the online questionnaire to their networks.

Questionnaire Preparation

The processes that were followed for the development of the questionnaire items are illustrated in table 1 below.

Table 1.

The Timescale and Development of the Questionnaire Items

Questionnaire Stages	Date 2019	The Development of the Questionnaire
Draft 1 Electronic and Hard Copy	28 January	<ul style="list-style-type: none"> - 2 Sections (<i>Professional Experience</i> and <i>Professional Practice</i>) - 21 Questions - Question types (dichotomous, multiple choice, and Likert scale items) - Language and specific terminology refined - Letter to explain questionnaire drafted - It was decided by the partners to use closed questions having agreed that this would provide the relevant data.
Draft 2 Electronic and Hard Copy	18 February	<ul style="list-style-type: none"> - 23 Questions - Additional Likert Scale questions types - Further refined the language of the questionnaire and specific terminology - Duplication of questions eliminated
Pilot Online Hyperlink from here on	25 February	<ul style="list-style-type: none"> - 3 Sections (<i>Professional Experience</i>, <i>Professional Practice</i> and <i>Development of Online Resource</i>) - 16 Questions - Rating scales adjusted - Further refined language of the questionnaire - Order of questions was changed - Online issues identified and adjusted e.g. insertion of a 'submit' button, use of a click function, alignment of questions on the online pages
Translation of Pilot	4-10 March	Translated into Spanish, French, Slovak, German, and Croatian
Distribution of Pilot by Partners	11-14 March	
Refinement of Final Questionnaire	22 March	<ul style="list-style-type: none"> - 17 Questions - Special Educational Needs (SEN) replaced with Additional Needs (AN) - Question order again changed - The number of how many options a respondent could answer to particular questions was inserted - The text 'skip to' was re-inserted to explain to the respondent why it was going to skip - Additional option fields were added to some questions e.g. don't recall and not applicable

- Social Media links inserted

Translation of Edits to Final Questionnaire 27 March – 1 April

Distribution of Online Questionnaire by Partners 2-30 April

Participants

The questionnaire was distributed to primary teachers who teach PE in primary schools in Europe. Teachers who responded to the questionnaire could either teach in general or special primary schools.

Questionnaire Distribution

The questionnaire was live from 2nd April 2019 to 30th April 2019 via the online survey tool *Qualtrics xm*. It was available in the following languages: English, French, German, Slovak, Spanish and Croatian. Each DIPPE project partner received the hyperlink via email with a document containing a suggested statement explaining the project. This statement could be used to accompany the questionnaire. The statements were translated to match the needs of the participants. Partners distributed the questionnaire hyperlink with the accompanying statement for circulation to their networks/platforms. It was recommended that a 'reminder' communication be sent by partners to networks at the midpoint distribution period of the questionnaire (15th April 2019).

Sourcing of Respondents

Each partner aimed to receive 50+ responses using school and professional email addresses, subject association networks and social media platforms. Additionally, information about the project was posted on websites. This questionnaire distribution procedure was cognisant of national and regional differences. Every effort was made to promote a consistent approach.

Ethics

A letter accompanying the questionnaire explained the project. This included a confidentiality and anonymity statement. All data was stored securely in accordance with current data protection regulations (European General Data Protection Regulation 2016/679 of 27/4/2016). Only project partners have access to this data stored in a cloud system used by the University of Luxembourg based on the university servers. All data will be retained for a period of five years following the completion of the project. Following this period, all data will be destroyed.

Data Analysis

The completion rate of the questionnaire was used as the criterion for participants' inclusion in the analysis sample. Hence, the whole sample was not used in the analysis, as there was a portion of respondents who had very low completion rates. Only respondents with at least 80.0% completion rate were included in the analysis sample. The final sample involved in the analysis was N=1206.

Data checks and data cleaning were conducted to ensure that the data were suitable for statistical analysis. Recoding of existing variables was also conducted to facilitate specific types of statistical analysis. The updated database was securely saved. The statistical analysis of data included descriptive and inferential statistics presented in the results below. When deemed appropriate, analysis was conducted for each individual country to allow for

country comparisons. Statistical analysis was undertaken using SPSS (Statistical Package for Social Sciences) 24 and graphs were generated with the use of Microsoft Excel.

Limitations

Response rates varied across countries with particularly strong response rates from two countries. We believe that this may have a bearing on the results.

Results

In the following, a selection of the main results of the survey will be presented in three sections: (1) *Demographics*; (2) *Professional practice*; and (3) *Development of an online resource on inclusive primary physical education*.

Demographics

The overall response rate (n=1206) is relatively high showing clear differences between the countries (table 2). On the top of the list are Croatia, Spain and Ireland with more than 100 participants respectively, followed by France, England, Netherlands, Scotland, Luxembourg and Slovakia with respectively more than 50 participants. The sample demonstrates a gender composition with a majority of female teachers (57.4%) in contrast to 41.1% male teachers. Of the participants, 58.3% are specialist PE teachers, while 36.7% are working as generalist teachers. With regard to the general teaching experience, almost one third of the participants (32.1%) have taught between 11 and 20 years; the rest being represented in the remaining other four age categories (less than 6 years, 6-10 years, 21-25 years, more than 25 years). When related to a more specific PE teaching experience, a similar composition is reflected in so far that a majority has 11 to 20 years of experience (30.8%), whereas approximately one out of four participants has less than six years of experience in teaching PE.

Table 2

Respondents' demographics (N=1206)

Variable	Values	N	%
Country	Croatia	503	41.7
	England	65	5.4
	France	95	7.9
	Ireland	137	11.4
	Luxembourg	53	4.4
	Netherlands	66	5.5
	Scotland	58	4.8
	Slovakia	51	4.2
	Spain	142	11.8
	Other	36	3.0
Gender	Male	494	41.1
	Female	689	57.4
	Prefer not to identify/rather not say	18	1.5
Professional Qualification	Generalist	381	36.7
	Specialist	606	58.3
	Other	52	5.0
General Teaching Experience	<6 years	234	19.5
	6-10 years	215	17.9
	11-20 years	386	32.1
	21-25 years	149	12.4

	>25 years	219	18.2
Physical Education Teaching Experience	<6 years	290	24.2
	6-10 years	214	17.8
	11-20 years	369	30.8
	21-25 years	128	10.7
	>25 years	199	16.6

Professional Practice

Overall, figure 1 shows that almost 9 out of 10 of the participating teachers consider inclusion in PE in primary schools as important in their countries (88.1%). However, 11.9% of the sample consider inclusion as not or not at all important. In particular teachers in Spain, Luxembourg and France stand out with 20.0-33.3% sharing this opinion; in contrast, less than 10.0% of teachers in Scotland and Croatia chose this ranking. Comparing the national results shows moreover that in Scotland, Croatia, Ireland, England and Slovakia, the importance of inclusion (reflected here by the three categories “very important”, “fairly important” and “important”) is considered as higher than in the sample average.

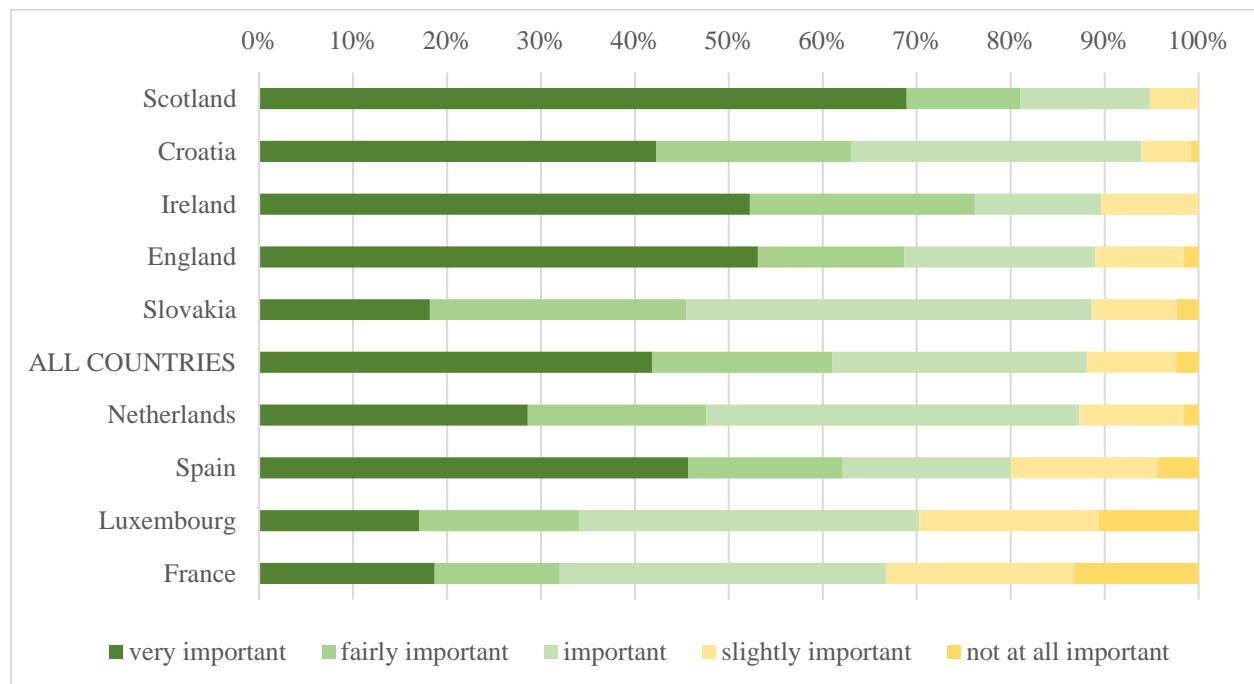


Figure 1. Rating of the importance of inclusion in PE in primary schools in the respondent's country across Europe and by country

Note. Figure 1 includes countries from which a substantial number of teachers completed the questionnaire.

$N_{\text{Europe}}=1149$; $N_{\text{Croatia}}=489$; $N_{\text{England}}=64$; $N_{\text{France}}=75$; $N_{\text{Ireland}}=134$; $N_{\text{Luxembourg}}=47$; $N_{\text{Netherlands}}=63$; $N_{\text{Scotland}}=58$;

$N_{\text{Slovakia}}=44$; $N_{\text{Spain}}=140$.

Differentiating between AN that teachers come across in their current PE lessons reveals that in this sample, children's AN were most frequently related to the field of “motor” (37.7%), followed by “emotional” (31.2%) and “social” (30.6%) requirements (figure 2). Further AN were identified in the categories of “general learning” (26.7%), “physical” (26.6%) and “chronic diseases” (26.1%). In a large number of cases (around 25.6%)

teachers also faced children with “multiple” AN. Issues related to “obesity” (22.5%), “gender/mixed” (19.2%) and “language” (14.6%) conclude the list of the named AN.

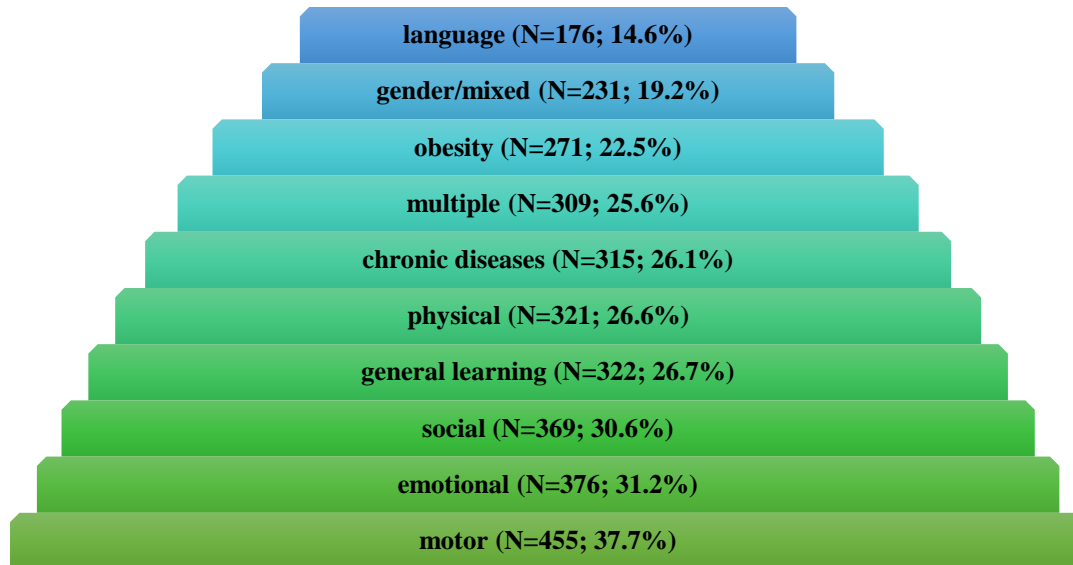


Figure 2. Frequency of identified AN in teachers' current PE classes (N=1206)

Note. Responses in this question were not mutually exclusive (i.e., each respondent could choose more than one category).

Viewing the general engagement of children with AN in PE lessons, a majority are always (36.6%) or frequently (45.0%) included and engaged in PE lessons according to the participating teachers. In 18.4% of the cases they are included and engaged only sometimes, rarely or even never (figure 3).

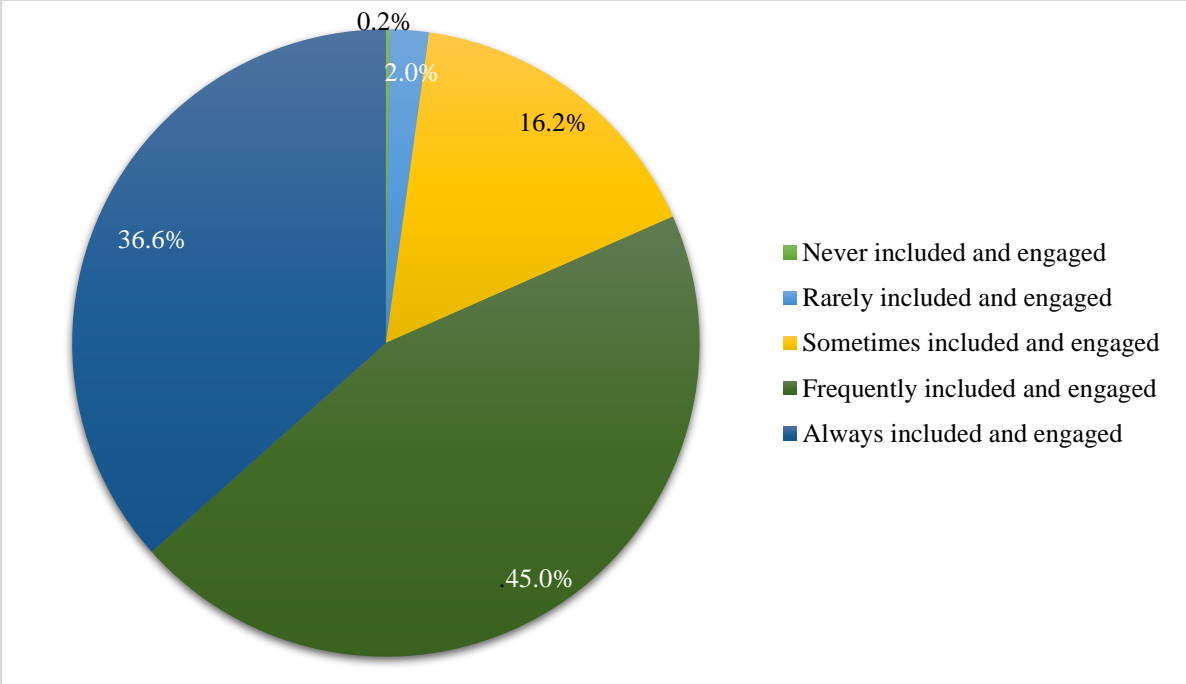


Figure 3. Teacher ratings of children’s engagement levels with AN in PE lessons (N=815)

When asked about their competence to include children with AN in their PE lessons, approximately two third of the participating teachers rated their competence as “good” (43.7%) or “very good” (21.7%). Less than one third (28.7%) considers their own competence in this regard still as “fair”, while 5.9% chose “poor” or “very poor” in this self-evaluation (figure 4).

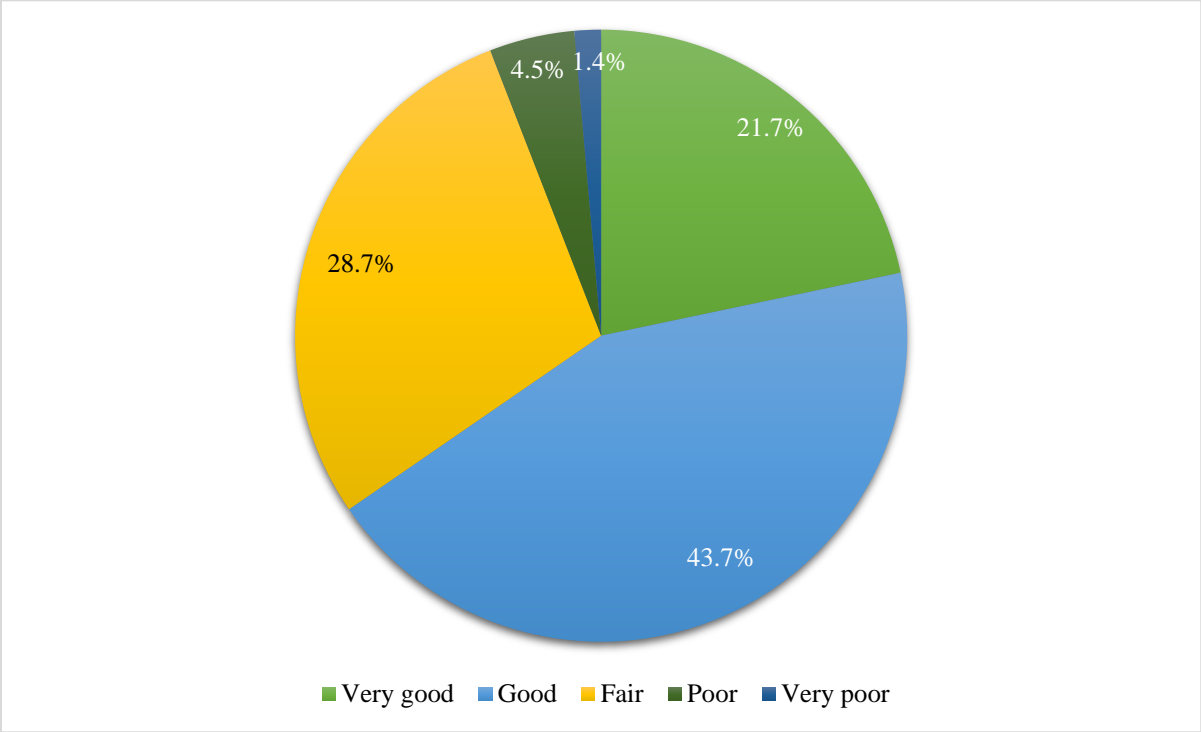


Figure 4. Teachers' competence to include children with AN in PE lessons (N=1130)

The participants were asked about the different teaching strategies they use for the promotion of inclusion in their PE lessons. Among the most popular are besides the establishment of a “buddy system” (51.3%), diverse forms of modification related to the rules of a game/activity (68.1%), the teaching style (53.2%), the equipment (44.9%), and the used space (34.9%) (table 3).

Table 3

Numbers of teachers using specific teaching strategies for the promotion of inclusion in PE lessons (N=1206)

Teaching strategy	N	%
Modifying the rules of the game/activity	821	68.1
Modifying teaching styles	642	53.2
Buddy system i.e., peer help for the child with AN	619	51.3
Modifications to equipment	542	44.9
Modifications to space	421	34.9
Station teaching i.e. children rotate in groups from one activity to the next	377	31.3
Small groups of children working together according to ability (Parallel activity)	369	30.6
Whole class teaching	305	25.3
Task Cards e.g. images and task description, image only	210	17.4
Separate activities planned for an individual or group with AN (Separate activity)	199	16.5
Reverse integration where participants with and without AN participate in a disability activity/sport (Disability sport activity)	155	12.9
Zone areas exclusive to children with AN and their peer buddy	68	5.6
Other	68	5.6
Parental advocacy	37	3.1
None	34	2.8

Note. Responses to this question were not mutually exclusive (i.e., each respondent could choose more than one category).

Development of an Online Resource on Inclusive Primary Physical Education

When asked about which guidance on the respective aspects of AN is welcomed by the participants, most desired is the aspect of “motor” (59.2%), followed by “physical” (43.4%), “emotional” (43.4%), and “adapting activities” (41.0%). Aspects of “general learning” (15.7%), “gender” (13.3%), and “language” (8%), were less demanded (table 4).

Table 4

Numbers of teachers who would welcome guidance on each aspect of AN as part of an online PE inclusive practice ‘tool-kit’ (N=1206)

Aspects of AN	N	%
Motor	714	59.2
Physical	523	43.4
Emotional	523	43.4
adapting activities	495	41.0
Social	411	34.1

Obesity	389	32.3
focus on planning for inclusion	365	30.3
chronic diseases (e.g. diabetes, asthma)	350	29.0
adapting equipment	291	24.1
general learning	189	15.7
gender (where boys and girls are taught together in Physical Education lessons)	160	13.3
Language	94	7.8

Note. Responses to this question were not mutually exclusive (i.e., each respondent could choose more than one category).

Regarding the type of support participating teachers would consider as beneficial for planning inclusion within PE lessons, they identified the following top five (table 5):

- Video practical case scenarios of teachers who are supporting children with AN in PE classes (67.2%);
- Video clips of children with AN in PE classes (60.3%);
- Templates of visual resources (35.2%);
- Video audio recordings of support personnel e.g. physiotherapists/occupational therapists (31.6%);
- Guidance on adapting activities (31.4%).

Table 5

Numbers of teachers who consider each type of support beneficial for planning for inclusion within PE lessons as part of an online PE inclusive practice 'tool-kit' (N=1206)

Supports beneficial for planning for inclusion within PE lessons	N	%
Video practical case scenarios of teachers who are supporting children with AN to reach their Physical Education goals describing their work	811	67.2
Video clips of children with AN working within Physical Education classes	727	60.3
Templates of visual resources e.g. visual cue cards related to activities in Physical Education	425	35.2
Video/audio recordings of physiotherapist/psychomotor assistant/occupational therapist advice	381	31.6
Guidance on adapting activities	379	31.4
Links to relevant organisations who offer online resources	351	29.1
Guidance on planning for inclusion	341	28.3
Text based case scenarios of teachers describing their work of supporting children with AN to reach their Physical Education goals	298	24.7
Guidance on helpful books/journals/articles that support inclusion in Physical Education lessons	231	19.2
Images of children with AN working within Physical Education classes led by teachers	202	16.7
Guidance on adapted equipment	182	15.1
Virtual Community of Practice for teachers to share their inclusive practices	174	14.4
Guidelines on sharing information related to Physical Education with parents of children with AN	136	11.3
A DIPPE Twitter (online news and social networking) service hosting video clips of children with AN working within Physical Education classes uploaded by teachers	111	9.2
Hyperlinks to national Physical Education Associations to direct you to relevant supports	106	8.8

Note. Responses to this question were not mutually exclusive (i.e., each respondent could choose more than one category).

Discussion and Recommendations

Based on the results presented above, five relevant factors that merit attention were identified:

1. A high response rate of N=1206;
2. 58.3% of children are taught PE by specialist teachers, while 36.7% are taught by generalist teachers;
3. More than 4 out of 5 participating teachers (88.1%) ranked inclusion in PE in primary schools as important in their countries;
4. 65.4% of participating teachers rated their competence to include children with AN in their PE lessons as good or very good;
5. 36.6% of children are always included in PE lessons.

These results underpin the derived recommendations, outlined in the following, to inform the development of the DIPPE resource supporting teachers planning inclusive primary PE. Teachers identified the *guidance* they required related to aspects of AN. The DIPPE resource to be developed should provide guidance on a wide range of aspects of AN with a particular emphasis on motor, physical and emotional needs, but not to the exclusion of the nine other additional aspects identified by significant numbers of respondents. Although practitioners, in general, feel supported in their professional development it is indicated that the developed resource should highlight the different *type of support* available across Europe based on the top five supports they would welcome for planning for inclusion in PE classes (video case scenarios; video clips; templates of visual resources; video audio recordings of support personnel; guidance on adapting activities). Thus, the developed resource should focus on providing these particular supports but not to the exclusion of the ten others that were identified by significant numbers of respondents.

Conclusion and Outlook

In summary the questionnaire revealed that most of the participating teachers in Europe consider inclusion in primary PE as an important topic, but with considerable differences among participating countries. Further on, many of the participating teachers feel competent to include children with AN in their PE lessons today. However, they are not able to include all children in the lesson without further supports outlined above and a particular emphasis on motor, physical and emotional needs is required. Finally, teachers would welcome in particular video case scenarios, templates of visual resources, video and audio recordings of support personnel and guidance on adapting activities in order to support them further to disentangling inclusion in primary PE..

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