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APPs – Addressing teaching to Prevent cyber- bullying Phenomenon at Schools

IO1.1: Research and Analysis of School Needs

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Table of Contents

APPs Project Research Report Overview	4
Section 1: Secondary Research <i>Cyberbullying and Innovative Learning Strategies</i>	6
Introduction	6
A: Background Research into Cyberbullying	7
Dimensions of Cyberbullying	8
Understanding Risks and Outcomes of Cyberbullying	10
Cyberbullying: Prevention and intervention	11
Cyberbullying and European Dimensions	14
Responding to Cyberbullying	15
Summary	16
References and Resources:	18
B: Background Research into Innovative Learning Strategies	19
Introduction	19
Examples of Innovative learning Strategies	19
Crossover Learning	19
Learning Through Argumentation	20
Incidental Learning	20
Context-Based Learning	21
Computational Thinking	21
Learning by Doing Science (with remote labs)	22
Embodied Learning	23
Adaptive Teaching	23
Analytics of Emotions	24
Stealth Assessment	24
Summary	25
Section 2: Primary Research	26
Introduction	26
APPs Baseline Research	26
APPs Primary Research Surveys	26
Key Points Emerging from Surveys	27

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Key points: Students	27
Key Points: Teachers	27
Key Points: Parents	27
Critical Issues and Recommendations	29
Appendices: available on G-Drive	31
Teacher Survey	31
Student Survey	31
Parent Survey	31
Students survey Age Comparison	31

APPs Project Research Report Overview

This document forms the Intellectual Output 1 of the APPs project. This has been designed taking into account the following guidelines derived from the project definition and agreement:

Aim: Improving the knowledge about school needs in terms of prevention of the cyber-bullying phenomenon, with special attention to the main sub-areas such as xenophobia, racism, gender-based harassment and disability to create an analytical framework that will be used in the development of the Vertical Learning Modules (VLM).

Objectives:

- To develop a deep understanding of the cyberbullying phenomenon through international background research, including its dimensions in schools (taking into account each school level involved in the project partnership) linked to xenophobia, racism, gender-based harassment and disability which will provide the framework for the development of Vertical Learning Modules
- To research innovative learning strategies which will increase understanding and choices for the development of the Vertical Learning Modules
- To conduct primary research and analysis of school needs regarding the cyberbullying phenomenon
- To enable definition of the learning objectives in a European perspective which will support the development by partners of the VLMS

The first and second sections of the document consist of background research on the dimensions and definitions of cyberbullying based on international research, evidence of best practice and analysis of European policy frameworks, and innovative learning strategies. The main section contains the results of the Primary Research: the extensive surveys undertaken among parents, teachers and students in the partner schools which afforded the researchers a direct link to the partners themselves on all of the areas relevant to the project aims and resulted in some valuable findings and triangulating the secondary and primary research. This was conducted among project partners, and provided useful agreed definitions, ideas and suggestions from the participants and which will be utilised in the VLM. The results of the surveys concur fully with the outcomes and findings of the secondary research – thus giving a firm evidence-based set of findings for subsequent actions in the project.

This Needs Analysis reviews the issues and themes identified in the international research. It summarizes the issues and themes that are involved. It sets the background to the Needs Analysis research undertaken in each of the Project Partner Countries and schools. In addition, this report considers Innovative Learning

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Strategies and detailed findings from surveys. All this is designed to identify and pinpoint the critical issues involved in developing an evidence-based response to the issue of cyberbullying in schools. These issues and themes are designed to contribute to the subsequent development of the Vertical Learning Modules.

Section 1 comprises the two areas of the secondary research: (A) Cyberbullying and (B) Innovative Learning Strategies. Section 2 examines the outcomes of the primary research undertaken.

Section 1: Secondary Research *Cyberbullying and Innovative Learning Strategies*

Introduction

The reality and impact of bullying has been the subject of extensive research over many years in all countries. Bullying occurs throughout the world and can occur at many stages in the course of life, from childhood to adolescence and in to adulthood, in private, educational and work settings. Bullying is a distinctive pattern of harm and humiliation of others, especially those who are in some way smaller, weaker, younger or in any way more vulnerable than the bully. Bullying is a deliberate and repeated attempt to cause harm to others of lesser power. Many studies show that bullies lack prosocial behavior, are untroubled by anxiety, and lack sympathy or any understanding for the feelings of others. Bullies often display little insight and see themselves in a positive light. Those who bully consistently and persistently often are shown to have poor relationships with parents and peers. Bullying has both psychological and social dimensions. The motivation of bullies has often been studied, as has the behavior and attitudes of victims. The neuropsychology indicates powerful themes around self-esteem, anger management and absence of empathy. The social dimensions include disruption, legal, criminal and organizational impacts.

The rapid growth of the internet and social media has provided a new platform for bullying, although traditional forms continue to exist. Cyber bullying is the term used to describe any aggressive, intentional act, behavior or communication undertaken an individual or group, using electronic and digital means against a vulnerable victim, repeatedly and over time. Cyberbullying can be defined as “Wilful and repeated harm inflicted through the use of computers, cell phones, and other electronic devices.” There is a significant overlap between most aspects of bullying and cyberbullying. But the literature indicates that cyberbullying has some distinctive characteristics.

These include the following:

- Victims of cyberbullying often do not know who the bully is or why they are being targeted.
- The hurtful actions of a cyberbully can reach victims anytime they use a telephone or computer.
- Bullying messages can spread virally through the Internet to many other people at school or in the community, making this type of bullying potentially very embarrassing and long-lasting.

Innovative Learning Strategies show how new techniques and modes of teaching and learning will facilitate the implementation of the vertical learning modules and the examples given provide a foundation for the teachers of the partner schools to develop these and their own ideas to accommodate the needs of the mixed age groups in this project.

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A: Background Research into Cyberbullying

The anonymity and seeming ubiquity of the threatening remarks or actions that constitute bullying can have a deeply disturbing and disconcerting impact. The sense of menace is amplified by the uncertainty and fear of being stalked and pursued. Many studies over several years have examined the negative effects that cyberbullying can have on victims (and also on bullies themselves). Victims are more likely to report lower grades, poor concentration, anxiety and a range of academic problems as a consequence of experiencing cyber bullying. Both victims and bullies often report higher levels of stress, depression and low self-esteem. A particularly serious consequence of cyber bullying, as also in harassment in general, is suicide.

For almost 50 years Dr. Dan Olweus, Professor of Psychology with the Research Center for Health Promotion (HEMIL) in the University of Bergen, Norway, has been involved in research and intervention work in the field of bullying with schoolchildren and youth. He initiated the first scientific study of bullying problems in 1970, published in 1978 in the United States as *Aggression in the Schools: Bullies and Whipping Boys*. In the 1980s, Dr. Olweus conducted the first systematic intervention study against bullying in the world, which documented a number of quite positive effects of what is now the *Olweus Bullying Prevention Program (OBPP)*. He was also the first to study the problem of bullying of students by teachers. Since 2001, he has been the leader of a government-initiated national initiative implementing his Bullying Prevention Program on a large-scale basis in Norwegian elementary and junior high schools.

Dr. Olweus is generally recognized as a pioneer and founding father of research on bullying problems and as a world-leading expert in this area both by the research community and by society at large. His book *Bullying at School: What We Know and What We Can Do* has been translated into fifteen different languages.

Research on cyberbullying is plagued by inconsistent findings and exaggerated claims about prevalence, development over time, and effects. To build a useful and coherent body of knowledge, it essential to achieve some degree of consensus on the definition of the phenomenon as a scientific concept and that efforts to measure cyberbullying are made in a 'bullying context.' This will help to ensure that findings on cyberbullying are not confounded with findings on general cyber-aggression or cyber-harassment. We tentatively recommend that cyberbullying should be regarded as a subcategory or specific form of bullying, in line with other forms such as verbal, physical, and indirect/relational.

Olweus (2017) highlights:

- Research on cyberbullying is plagued by inconsistent findings and exaggerated claims.
- To build a coherent body of knowledge, a consensual definition is important.
- Cyberbullying overlaps a lot with traditional bullying.
- It is important to measure cyberbullying in a bullying context.
- Cyberbullying should be regarded as a subcategory of bullying.

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Dimensions of Cyberbullying

Cyberbullying has become an international public health concern among adolescents. On that basis alone, significant further study is indicated and recommended in all the relevant literature. A review of the available evidence suggests that cyberbullying poses a threat to adolescents' health and well-being at many levels. A plethora of correlational studies have demonstrated a cogent relationship between adolescents' involvement in cyberbullying and negative health indices. Adolescents targeted via cyberbullying are found in all reports to have increased depression, loneliness, anxiety, suicidal behavior, and a range of depressive affects and somatic symptoms. On the other hand, perpetrators of cyberbullying are more likely to report increased substance use, aggression, and delinquent behaviors. A variety of mediating processes have been found to influence and moderate the relationship between cyberbullying and adolescent health. There is not as much evidence on the effects of cyberbullying on adolescent health over longer periods of time.

Adolescents in most advanced industrialized countries are moving beyond using the Internet as an "extra" in everyday communication (cyber utilization) to using it as a "primary and necessary" mode of communication (cyber immersion). In fact, 95% of adolescents in the United States are now connected to the Internet. This shift from face-to-face communication to online communication has created a unique (and potentially harmful) dynamic for social relationships – a dynamic that has recently been explored in the literature as cyberbullying and Internet harassment.

In general, cyberbullying involves hurting someone else using information and communication technologies. This may include sending harassing messages (via text or Internet), posting disparaging comments on a social networking site, posting humiliating pictures, or threatening/intimidating someone electronically. Unfortunately, cyberbullying behavior has come to be accepted and expected among adolescents. Compared to traditional bullying, cyberbullying is unique: it reaches an unlimited audience with increased exposure across time and space, preserves words and images in a more permanent state, and lacks any supervision. Furthermore, perpetrators of cyberbullying do not see the faces of their targets. Subsequently they may not understand the full consequences of their actions, thereby decreasing important feelings of personal accountability. This has often been referred to in the literature as the "disinhibition effect".

Cyberbullying has emerged as a relatively new form of bullying within the last decade. This new focus on cyberbullying has, in part, been driven by recent news media highlighting the connection between cyberbullying and adolescent suicides. In recent years, the nature of adolescent peer aggression has evolved due to the proliferation of ICT and digital platforms. There have been several high-profile cases involving teenagers taking their own lives in part because of being harassed and mistreated over the Internet (Apollo, 2007), a phenomenon recently termed *cyberbullicide* - suicide indirectly or directly influenced by experiences with online aggression (Hinduja & Patchin, 2009). While these incidents are isolated - and do not represent the norm - their gravity demands deeper inquiry and understanding.

Initial work on cyberbullying has focused on documenting prevalence rates, sex-related effects, and identifying similarities/differences to traditional forms of bullying. More recently, work has been conducted

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on establishing the psychosocial (for example, depression, anxiety) and psychosomatic correlates (for example, headaches, stomachaches) of cyberbullying.

Given that cyberbullying is a relatively recent phenomenon, it is important to note that there are still definitional and methodological inconsistencies throughout the literature. For example, some scholars have chosen to adopt a more conservative criterion to define cyberbullying (for example, “willful and repeated harm inflicted through the use of computers, cell phones, and other electronic devices”), while others have adopted a broader definition (for example, “using electronic means to intentionally harm someone else”). The term cyberbullying represents an umbrella term. This includes related constructs such as Internet bullying, online bullying, and information communication technologies and Internet harassment.

The literature also includes use of different reference points when assessing adolescents’ involvement with cyberbullying. Some researchers have asked adolescents to think about their experiences with cyberbullying over varying lengths of time (over weeks or over many months). Given these methodological inconsistencies, it is not surprising that the prevalence rates of cyberbullying victimization and perpetration can vary widely. Although the variability is significant, the research is clear on one generally accepted fact. Cyberbullying is prevalent during adolescence in all cultures where the technology supports it.

Research over many years has revealed a significant relationship between involvement in cyberbullying and affective disorders. For example, results indicate that there is a significant relationship between *cyber-victimization* and depression among adolescents, and among college students. Specifically, results showed that higher levels of cyberbullying victimization were related to higher levels of depressive affect. Raskauskas and Stoltz (2007) asked adolescents open-ended questions about the negative effects of cyberbullying. Notably, 93% of cybervictims reported negative effects. The majority of victims reporting feelings of sadness, hopelessness, and powerlessness. Their results demonstrated that cyber-victimization explained a significant amount of the variance in adolescent’s depressive symptomology, even when controlling for traditional forms of victimization.

Cyberbullying has also been conceptualized as a stressor. Many scholars note that targets of cyberbullying experience at least one symptom of stress. Similarly, targets of online harassment reported increased rates of trauma symptoms. Relatedly, findings from the *Second Youth Internet Safety Survey* (2006) indicated that 38% of adolescent victims reported that they were emotionally distressed as a result of being harassed on the Internet.

All the research indicates that, not surprisingly, cybervictims fear for their safety. It is generally accepted among expert literature that cyberbullying is more stressful than traditional bullying due in part, perhaps, to the anonymity associated with cyberbullying. Compared to traditional bullying, targets of cyberbullying are less likely to know their perpetrators. This contributes to increased fears related to identities of their perpetrators. Literally, the perpetrators could be anyone, even closest friends of the victims. Consistent with these findings, a recent study conducted in the US found that cyberbullying victimization was related to adolescents’ increased fear of victimization, even when controlling for their past victimization experiences and disordered school environments. Moreover, youth who were targets of cyberbullying reported increased feelings of embarrassment, hurt, self-blame, and fear. In telephone interviews with

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adolescents about their experiences with online harassment, Finkelhor et al (2006) reported that adolescents felt angry, embarrassed, and upset. Consistent with many other studies, the most common response to cyberbullying was anger. This was followed by upset and worry.

However, reactions to being cyberbullied may also depend on the form of cyberbullying. For example, Ortega et al (2012) found that different forms of cyberbullying may elicit different emotional reactions – for instance, being bullied online may evoke a different emotional reaction than being bullied via mobile phones. In terms of predicting the most deleterious outcomes, past studies have shown that pictures/video images were the most harmful to adolescents. In support of the need to examine unique contexts of victimization, results from more recent studies conducted in the United States revealed that different forms of electronic victimization (mobile phones, computers) were related to different psychological outcomes, with victimization via the computer (for example, online posts, pictures, email) being more harmful to adolescents than victimization via the phone (for example, text messaging and phone calls).

Cyber-victimization is related to disruptions in adolescents' relationships. Specifically, targets of cyberbullying reported more loneliness from both their parents and peers. This is accompanied with increased feelings of isolation and helplessness. Not surprisingly, targets of cyberbullying reported fewer friendships, more emotional and peer relationship problems, lower school attachment, and more empathy. Adolescents who are victimized via cyberbullying are more likely to lose trust in others, experience increased social anxiety, and decreased levels of self-esteem. Importantly, the relationship between cybervictimization and adolescents' psychosocial problems remain even after controlling for relational and physical forms of victimization, as well as school-based victimization.

Understanding Risks and Outcomes of Cyberbullying

When looking at the results and outcomes of the international research, certain clear patterns emerge. When looking at the roles and dimensions of cyberbullying, for example, those adolescents who were both perpetrators and targets (in other words, bully and victim) experienced the most adverse health outcomes, including decreased psychological and physical health. Specifically, these adolescents reported increased levels of depression, substance use, and behavioral issues compared to their peers who were either only targets or perpetrators. Adolescents who were both targets and perpetrators of cyberbullying also reported poorer relationships with parents and families, and higher levels of victimization and perpetration offline, compared to their peers. These results suggest that this group of adolescents may experience increased risk for associated negative health outcomes, and may require extra support from health care professionals, educators, and caring adults.

Taken together, results from many worldwide studies suggest that involvement in cyberbullying puts adolescents at risk for increased problems and complications around internalization and health function. These include many dimensions: depression, anxiety, suicidal ideation, and psychosomatic issues (difficulties sleeping, headaches, and stomach aches), as well as a loss of connection from parents and peers. All this serves to threaten security and adolescents' basic fundamental need for meaningful connections. In addition, participation in cyberbullying also places adolescents at risk for increased

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externalizing issues, such as substance use and delinquent behavior. This is a damaging and destructive combination that can entail significant longer term consequences.

Recently, researchers have begun to examine how developmental changes in adolescent risk factors affect subsequent involvement in cyberbullying behavior. Modecki et al (2014) have investigated the role of increasing developmental problems (problem behavior and poor emotional well-being) among adolescents and how these might predict subsequent involvement in cyberbullying over a 3-year period (while applying consideration for sex and pubertal timing). The findings demonstrate that adolescents' early stage developmental increases in problem behavior predicted their involvement with cyberbullying at later stages. Specifically, developmental decreases in self-esteem and increases in problem behavior (substance use, aggressive behavior, and delinquency) predicted adolescents' cyber-victimization and perpetration in senior classes. Self-esteem was measured with items assessing identity and efficacy.

Results from this study suggest that healthcare professionals and educators should carefully examine the trajectory of students' sense of self, in addition to the range of problem behaviors (physical aggression and substance use) during adolescence in a determined effort to reduce subsequent involvement with cyberbullying. Further, these results showed that adolescents who experienced increased depression in younger years were at higher risk for both cyber-victimization and cyber-perpetration in senior cycles.

Researchers have also examined the risk factors that may be related to involvement with cyberbullying behavior. Traditional bullying and rule-breaking behavior (for example, damaging property, cigarette/alcohol use) are the strongest predictors of cyberbullying perpetration, followed by the frequency of online communication. In summary, these results confirmed that those adolescents who bullied others in the "real world" were more than four times likely to bully someone online several months later. These results suggest that effective prevention and intervention efforts designed to reduce cyberbullying may include early detection of delinquent behaviors offline, including substance use and aggressive behavior. Moreover, results from other longitudinal studies demonstrated that adolescents' loneliness and social anxiety predicted increases in subsequent cyberbullying victimization. These results suggest that adolescents who are socially vulnerable may be at increased risk for experiencing online victimization.

Cyberbullying: Prevention and intervention

The evidence and research on the negative and serious effects and impact of cyberbullying is extensive and remarkable. In such a situation, meaningful prevention and intervention efforts must be a priority – particularly for those involved in education and operating within school systems. Research also tends to indicate, however, that effective prevention and intervention efforts to address cyberbullying are currently lacking and insufficient. Only a few studies exist.

These largely look at prevention efforts related to cyberbullying where the probably most effective routes suggest that attention should be concentrated on:

- Enhancing adolescents' empathy and self-esteem

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- Decreasing adolescents' problem behaviors
- Promoting warm, nurturing relationships with their parents
- Reducing their time spent online.

As an illustration, researchers working with adolescents generally report that those who were less empathic were more at risk for engaging in cyberbullying. Such studies demonstrate that the combined effect of affective (experiencing someone else's feelings) and cognitive (taking another's perspective) empathy played a vital role in influencing adolescents' participation in cyberbullying. Activating adolescents' empathy has been found to relate to less negative bystander behavior. Such results suggest that future prevention and intervention efforts be targeted towards increasing adolescents' affective (for example, "My friends' feelings don't affect me") and cognitive empathy (for example, "I can understand why my friend might be upset when that happens"). In this way, it is posited that participation in cyberbullying can be reduced. Empathy training seems particularly important given the nature of cyberspace and the lack of nonverbal cues available. Many adolescents are less inclined to experience empathy for targets online in part because they are not able to view their targets' facial expressions. Subsequently, prevention efforts may need to explicitly demonstrate the targets' experience of hurt and distress in order to activate adolescents' empathic responses.

Reports and studies all confirm the suggestion that prevention efforts directed towards reducing cyberbullying should address adolescents' self-esteem. This is the key factor, followed by specific problem behaviors. These findings reveal also that developmental decreases in adolescents' self-esteem can predict their subsequent involvement in cyberbullying (both as a perpetrator and as a target). Additionally, developmental increases in adolescents' problem behaviors (for example, substance use, delinquency, and aggressive behaviors) also can predict involvement in cyberbullying in subsequent years. Building on the work of Patchin and Hinduja (2007), these results direct educators and health care professionals to focus on adolescents' emotional well-being during the early high school years. During this crucial time, particular attention should be paid to those adolescents who experience steep declines in their self-esteem. This is at least as important as those young people who experience increases in problem behaviors including substance abuse, aggression and delinquency.

In terms of parental relationships, research findings suggest that health care professionals and educators should work together collaboratively in efforts to help adolescents and their parents establish warm, nurturing relationships. These relationships also require a need to establish and include close adult monitoring.

This is fully consistent with recent suggestions and recommendations from professional bodies (such as the *American Academy of Pediatrics*) that encourage parents to engage. This means to participate in open discussions with children and adolescents about their online behavior, to be conversant with the trends in digital media (including changes and advances), and to implement the necessary safeguards to protect youth from engaging in cyberbullying behaviors. Discussion, open communication, awareness and updated knowledge are essential elements for parental capacity and ability to make a difference. Clearly, meaningful social connection is key to effective prevention and intervention efforts. Finally, the results from recent studies and investigations conducted by Hinduja and Patchin (2007) suggest that adolescents'

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socializing agents (friends, family, and adults at school) play an important role in whether or not adolescents choose to cyberbully others.

Surveying a random sample of 4,441 adolescents, the study results showed that adolescents who believed that several of their friends were involved with cyberbullying were more likely to cyberbully others themselves. These results suggest the need for prevention efforts designed around correcting the “misperceived” norm of cyberbullying. Additionally, the results also indicated that adolescents who believed that the adults in their lives would hold them accountable for their involvement with cyberbullying were less likely to participate in cyberbullying, thus suggesting the important role that adults play in the lives of adolescents in terms of reducing cyberbullying behaviors.

Prevention has been highlighted as an area that requires significantly more resources and attention. This is a challenging area as it requires coordination, communication and clarity of both objectives and methods. The United States Department of Health and Social Services operates a comprehensive website, *Stop Bullying*. This devotes an entire section to prevention of cyberbullying:

(<https://www.stopbullying.gov/cyberbullying/prevention/index.html>)

This site summarizes the warning signs of cyberbullying thus.

Many of the warning signs that cyberbullying is occurring happen around a child’s use of their device. Some of the warning signs that a child may be involved in cyberbullying are:

- Noticeable increases or decreases in device use, including texting.
- A child exhibits emotional responses (laughter, anger, upset) to what is happening on their device.
- A child hides their screen or device when others are near, and avoids discussion about what they are doing on their device.
- Social media accounts are shut down or new ones appear.
- A child starts to avoid social situations, even those that were enjoyed in the past.
- A child becomes withdrawn or depressed, or loses interest in people and activities.

As part of the preventive strategy, it outlines what can be done to detect or prevent:

Cyberbullying is a form of bullying, and adults should take the same approach to address it: support the child being bullied, address the bullying behavior of a participant, and show children that cyberbullying is taken seriously. Because cyberbullying happens online, responding to it requires different approaches. If you think that a child is involved in cyberbullying, there are several things you can do:

- **Notice** – Recognize if there has been a change in mood or behavior and explore what the cause might be. Try to determine if these changes happen around a child’s use of their digital devices.
- **Talk** – Ask questions to learn what is happening, how it started, and who is involved.

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- **Document** – Keep a record of what is happening and where. Take screenshots of harmful posts or content if possible. Most laws and policies note that bullying is a repeated behavior, so records help to document it.
- **Report** – Most social media platforms and schools have clear policies and reporting processes. If a classmate is cyberbullying, report it the school. You can also contact app or social media platforms to report offensive content and have it removed. If a child has received physical threats, or if a potential crime or illegal behavior is occurring, report it to the police.
- **Support** – Peers, mentors, and trusted adults can sometimes intervene publicly to positively influence a situation where negative or hurtful content posts about a child. Public Intervention can include posting positive comments about the person targeted with bullying to try to shift the conversation in a positive direction. It can also help to reach out to the child who is bullying and the target of the bullying to express your concern. If possible, try to determine if more professional support is needed for those involved, such as speaking with a guidance counselor or mental health professional.

Cyberbullying and European Dimensions

In a major study published in 2016, the European Parliament (2016, *Cyberbullying Among Young People*) reviewed the position of cyberbullying in Europe and compared the responses of the various Member States. This study provides an overview of the extent, scope and forms of cyberbullying in the European Union. It factors into account the age and gender of both victims and perpetrators as well as the medium used.

Commissioned by the *Policy Department for Citizens' Rights and Constitutional Affairs*, the study illustrates the legal and policy measures on cyberbullying adopted at EU and international levels. It also delineates the role of the EU in this area. An analysis of legislation and policies aimed at preventing and fighting this phenomenon across the 28 EU Member States was included. The study outlined the variety of definitions of cyberbullying across EU Member States and the similarities and differences between cyberbullying, traditional bullying and cyber aggression. Moreover, it presented successful practices on how to prevent and combat cyberbullying in nine selected EU Member States. Finally, it advanced recommendations for improving the response at EU and Member State levels.

The lack of harmonization at European level is highlighted by the fact that only Belgium, Germany, Italy, Ireland, the UK and Spain have dedicated juvenile courts to try cyberbullying cases.

The study also highlighted positive initiatives started by authorities to tackle the phenomenon, such as the implementation of early warning systems in schools, with a series of indicators that allow teachers to spot cases and inform parents or guardians. Of the EU28, only Spain, Italy, Greece, Finland, Croatia and Belgium require teachers to oversee this process.

The European Commission defines cyberbullying as “repeated verbal or psychological harassment carried out by an individual or a group against others through online services and mobile phones”. Cyberbullying is

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generally understood as bullying taking place on the internet. There is no single definition of cyberbullying agreed upon internationally or at European level. However, attempts to define this phenomenon have been made by international organizations, EU institutions and academia. Despite differences among definitions the following elements have been identified as common features of cyberbullying:

- The use of electronic or digital means
- The intention to cause harm
- A sense of anonymity and lack of accountability of abusers as well as the publicity of actions.

At national level, only fourteen EU Member States provide an official definition of bullying online.

There are no standards specifically targeting cyberbullying at international level. However, Article 19 of the UN Convention on the Rights of the Child (UNCRC) on the protection from all forms of violence is applicable to bullying online. At regional level, the Council of Europe has adopted a range of legally binding measures relevant to bullying online. The EU has only a 'supplementary' role in this field consisting of supporting, coordinating or supplementing the initiatives adopted by Member States at national level.

At national level, none of the 28 EU Member States have criminal legal provisions targeting cyberbullying specifically.

The most common good practices in the nine Member States selected for further analysis can be grouped around two main areas:

- Education/awareness raising
- Child protection.

The Report's conclusions affirm that a cultural change by victims, perpetrators and bystanders is essential. To this end, support and educational programs for all those involved and not involved in bullying incidents should be created. Reporting mechanisms such as helplines and the installation of reporting tools in children's computers to signal incidents should also be put in place. These mechanisms have been created in the Netherlands in the form of a report button that can be activated when children encounter online threats.

Responding to Cyberbullying

Schenk and Fremouw (2012) examined the coping strategies used by targets of cyberbullying. Their results revealed that targets of cyberbullying generally cope with cyber-victimization by a number of ways.

These include:

- Telling someone
- Avoiding friends or peers

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- Getting revenge
- Withdrawing from events (thus potentially undermining important social connections).

However, Slonje and Smith (2008) found that 50% of targets did not tell anyone, 35.7% told a friend, 8.9% told a parent or guardian, and 5.4% told someone else. Notably, the majority of targets do not tell adults (one study reports up to 90% of adolescents did not tell an adult about their experiences related to cyberbullying). Although these studies start a process of identifying coping strategies used by cyberbullying victims, most investigations have not examined the effectiveness of such strategies in terms of reducing subsequent risky behavior. Strategy effectiveness needs to be examined in depth. It is to try to identify those strategies that may help to reduce the negative effects of cyberbullying. Results from a recent longitudinal study conducted in the Netherlands by Völlink et al (2007) demonstrated that adolescents' use of emotion-focused coping strategies negatively affected their subsequent psychological and physical health (depression, chest tightness, headaches). Many studies indicate that adolescents' coping strategies can mitigate or reduce the negative impact of cyberbullying and, as such, are being constantly investigated.

Research suggests that different forms of support may mitigate the effects of traditional forms of victimization on psychological well-being. There are, however, very few studies that have examined how different forms of social support might mitigate the impact of cyberbullying on adolescent health. Specifically, close feelings of social support mitigated the negative impact of cyberbullying on depression, whereas feelings of helplessness increased depressive symptomology. Similarly, Fanti et al (2012) examined how different forms of social support (peer, family, and school) influenced the prevalence of cyberbullying. Using a longitudinal design, Fanti et al found that adolescents' family social support was a protective factor for both cyberbullying victimization and cyberbullying perpetration, such that family social support was related to decreases in cyberbullying behaviors one year later, even after accounting for other risk factors. These results suggest that family social support may be an important protective factor in guarding against the negative health correlates of cyberbullying, and thus merits further scrutiny.

Summary

In summary of all the research findings and evidence, research has demonstrated that cyberbullying, victimization and perpetration have a significant detrimental impact on adolescents' health. In fact, the studies reviewed above all suggest that cyberbullying is an emerging international public health concern of significant scale, related in turn to serious mental health concerns. There is ample evidence of serious and sustained significant impact on adolescents' levels of depression, anxiety, self-esteem, emotional distress, substance use, and suicidal behavior. Moreover, cyberbullying is also related to a wide range of adolescents' physical health concerns.

It is important to note that the majority of studies investigating the relationship between cyberbullying behaviors and adolescent health have been correlational in nature. While correlational studies are an important first step to understanding the impact of cyberbullying, longitudinal studies are now needed to increase our understanding of how cyberbullying experiences affect adolescents' health over time. By using longitudinal designs, it will be possible to test whether adolescents' depressive symptoms, social anxiety, or

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suicidal tendencies related to cyberbullying are antecedents or consequences. For example, it is possible that depressive symptomology could either be an antecedent or an effect of cyberbullying victimization. Longitudinal study designs permit us to examine both of these possibilities with more clarity.

Findings from the literature reviewed have significant implications for health care professionals, educators, and caring adults. First and foremost, the studies described throughout urge educators, counselors, and health care professionals to address cyberbullying when assessing adolescents' physical and psychological health concerns. It is clear that adolescents who are involved in cyberbullying experiences require support. However, evidence suggests that the majority of adolescents do not seek help from adults when involved in cyberbullying. Therefore, it is important to take a proactive approach.

In the final analysis, research suggests the fact that support for identification, prevention and intervention on cyberbullying should come from multiple professional communities that serve youth.

These include:

- Educational (teachers, guidance counselors, administrators, chaplains, professionals working in the schools)
- Behavioral health (clinicians treating adolescents with mental health concerns, psychologists, therapists)
- Medical (pediatricians asking about cyberbullying experiences during visits, specialists)

Sensitive probing about cyberbullying experiences is warranted when addressing adolescent health issues such as depression, substance use, suicidal ideation, as well as somatic concerns. Routine screening techniques can be developed to assist in uncovering the harm endured through cyberbullying to help support adolescents recovering from associated trauma. Finally, research suggests a strong need for comprehensive, school-based programs directed at cyberbullying prevention and intervention. Education about cyberbullying should be integrated into school curriculums and the community at large, for example, by engaging adolescents in debates and community discussions related to cyberbullying legislation, accountability, and character. This ultimately concerns students and their health and wellbeing. Students should therefore be at the forefront of all efforts and directly involved to guarantee some measure of success.

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B: Background Research into Innovative Learning Strategies

Introduction

The pace of technological change, the ubiquity of internet access and the growth of accessible learning have all produced new and innovative approaches to teaching and learning. Collaborative learning has had a profound impact, especially in countries like Finland. The development of reflective learning, critical thinking and digitally enhanced modules have all shaped this deeply – as well as associated assessment systems. Other approaches have had a significant impact or are currently being articulated. The examples that follow come from work adapted from *TeachThought and SRI International*.

In developing the Vertical Learning Modules, APPs partners can draw on these techniques in order to develop VLMs that suit the concept of working with mixed age groups, especially in the sensitive area of cyberbullying. Examples of activities for mixed age groups will be presented under each technique, which can be adapted and developed by teachers in developing the VLMs.

Examples of Innovative learning Strategies

Crossover Learning

Learning in informal settings, such as museums and after-school clubs, can link educational content with issues that matter to learners in their lives. These connections work in both directions. Learning in schools and colleges can be enriched by experiences from everyday life; informal learning can be deepened by adding questions and knowledge from the classroom. These connected experiences spark further interest and motivation to learn.

An effective method is for teachers to propose and discuss a question in the classroom. Subsequently, learners explore that question on a museum visit or field trip, collecting photos or notes as evidence. Findings are then shared back in the class to produce individual or group answers. These ‘crossover learning experiences’ exploit the strengths of both environments and provide learners with authentic and engaging opportunities for learning. Since learning occurs over a lifetime, drawing on experiences across multiple settings, the wider opportunity is to support learners in recording, linking, recalling and sharing their diverse learning events.

Examples for Use in VLMs:

This technique is ideally placed for working with mixed age groups. For example, similar to the Field Trip exercise in the LTTA, the teacher can introduce a topic, such as Power and Peer Pressures, and conduct a trip to a local museum, art gallery or an age appropriate movie (such as a power struggle one, Avengers, Iron Man]. The small groups can be of mixed ages, and older children can compare notes and opinions with younger ones, leading to a rich learning experience. It can be extended

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with research by individuals or the groups (or classes) into the facts behind the opinions expressed. They can also search out alternative views and check the veracity of all. Presentations can be made to the school and other classes.

Learning Through Argumentation

Students can advance their understanding of science and mathematics by arguing in ways similar to professional scientists and mathematicians. Argumentation helps students attend to contrasting ideas, which can deepen their learning. It makes technical reasoning public, for all to learn. It also allows students to refine ideas with others, so they learn how scientists work together to establish or refute claims.

Teachers can spark meaningful discussion in classrooms by encouraging students to ask open-ended questions, re-state remarks in more scientific language, and develop and use models to construct explanations. When students argue in scientific ways, they learn how to take turns, listen actively, and respond constructively to others. Professional development can help teachers to learn these strategies and overcome challenges, such as how to share their intellectual expertise with students appropriately.

Examples for Use in VLMs:

This is an excellent tool to support the development of good communication skills such as listening and empathy, all of which will give a deeper support to the area of cyberbullying. Mixed age group debates can be initiated, where the topic will need to be searched, paying especial attention to learning to move to presenting facts in clear language, rather than opinions, emotive statements. Then support, perhaps through practices with teachers, to show how an opposing fact can be refuted with logic. This will also be an excellent tool to support these groups in developing written arguments perhaps through getting them to produce pamphlets for class votes on opposing views. Support classes in listening skills and giving fact based statements can be practiced. Reviews following these debates, which could be filmed, could focus on areas such as listening, displays of empathy, and in themselves can be a model for delivering good feedback to the students [*Simple Feedback Model: say something positive and fact based, suggest areas for improvement and finish with what was really good*].

Incidental Learning

Incidental learning is unplanned or unintentional learning. It may occur while carrying out an activity that is seemingly unrelated to what is learned. Early research on this topic dealt with how people learn in their daily routines at their workplaces.

For many people, mobile devices have been integrated into their daily lives, providing many opportunities for technology-supported incidental learning. Unlike formal education, incidental learning is not led by a teacher, nor does it follow a structured curriculum, or result in formal certification. However, it may trigger self-reflection and this could be used to encourage learners to reconceive what could otherwise be isolated

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learning fragments as part of more coherent and longer-term learning journeys.

Examples for Use in VLMs:

Occasional discussion groups can be held with the student groups, these can be semi- structured, perhaps around the idea of some of the students bringing a comment or article that they have noticed, either online, tv, among friends, in daily life which can be used for discussion. A number of these could be mentioned, and perhaps the group could choose one or two for discussion. This will encourage observational skills and self-reflection on what might be relevant. Or students could highlight a small learning moment that they had recently.

Context-Based Learning

Context enables us to learn from experience. By interpreting new information in the context of where and when it occurs and relating it to what we already know, we come to understand its relevance and meaning. In a classroom or lecture theater, the context is typically confined to a fixed space and limited time. Beyond the classroom, learning can come from an enriched context such as visiting a heritage site or museum or being immersed in a good book.

We have opportunities to create context, by interacting with our surroundings, holding conversations, making notes, and modifying nearby objects. We can also come to understand context by exploring the world around us, supported by guides and measuring instruments. It follows that to design effective sites for learning, at schools, museums and websites, requires a deep understanding of how context shapes and is shaped by the process of learning.

Examples for Use in VLMs:

This is an opportunity for students to begin to develop more skills around analysis and reflection. They may begin, with teachers' support, to identify and link different aspects of their lives where learning is occurring, perhaps through reading a book that is not obviously connected with an aspect of cyberbullying and having a small 'light bulb' moment where they see how there is relevance to a different context.

Computational Thinking

Computational thinking is a powerful approach to thinking and problem solving. It involves breaking large problems down into smaller ones (decomposition), recognizing how these relate to problems that have been solved in the past (pattern recognition), setting aside unimportant details (abstraction), identifying and developing the steps that will be necessary to reach a solution (algorithms) and refining these steps (debugging).

Such computational thinking skills can be valuable in many aspects of life, ranging from writing a recipe to share a favorite dish with friends, through planning a holiday or expedition, to deploying a scientific team

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to tackle a difficult challenge like an outbreak of disease.

The aim is to teach children to structure problems so they can be solved. Computational thinking can be taught as part of mathematics, science and art or in other settings. The aim is not just to encourage children to be computer coders, but also to master an art of thinking that will enable them to tackle complex challenges in all aspects of their lives.

Examples for Use in VLMs:

Using this technique to address the broad issue of cyberbully can be done through something like presenting a case study to the group, or to watch on of the videos regarding cyberbullying. The older children can help break the study into different parts, and then divide into mixed groups to each address one of these parts; then draw upon or research other similar examples to get the pattern recognition – teaching them how to spot common aspects for example, working out steps to solve each part, bringing it together, then refining each step. Some of the children in the groups may have good mathematical skills and can help the others develop ‘what next’ algorithms such as ‘if this is your answer go to step 4, or if this then step 2’. These are valuable skills that will have good transferability to their other school work and life skills.

Learning by Doing Science (with remote labs)

Engaging with authentic scientific tools and practices such as controlling remote laboratory experiments or telescopes can build science inquiry skills, improve conceptual understanding, and increase motivation. Remote access to specialized equipment, first developed for scientists and university students, is now expanding to trainee teachers and school students. A remote lab typically consists of apparatus or equipment, robotic arms to operate it, and cameras that provide views of the experiments as they unfold.

Remote lab systems can reduce barriers to participation by providing user-friendly Web interfaces, curriculum materials, and professional development for teachers. With appropriate support, access to remote labs can deepen understanding for teachers and students by offering hands-on investigations and opportunities for direct observation that complement textbook learning. Access to remote labs can also bring such experiences into the school classroom. For example, students can use a high-quality, distant telescope to make observations of the night sky during daytime school science classes.

Examples for Use in VLMs:

Learning scientific methods are always useful for all age groups, and the novelty of experiencing the use of remote labs will be exciting for students. While this technique is widely used among engineering and medical students, the most relevant use for VLMs would be to prepare simulated experiences, perhaps creating avatars and enacting different scenarios.

Embodied Learning

Embodied learning involves self-awareness of the body interacting with a real or simulated world to support the learning process. When learning a new sport, physical movement is an obvious part of the learning process. In embodied learning, the aim is that mind and body work together so that physical feedback and actions reinforce the learning process.

Technology to aid this includes wearable sensors that gather personal physical and biological data, visual systems that track movement, and mobile devices that respond to actions such as tilting and motion. This approach can be applied to the exploration of aspects of physical sciences such as friction, acceleration, and force, or to investigate simulated situations such as the structure of molecules.

For more general learning, the process of physical action provides a way to engage learners in feeling as they learn. Being more aware of how one's body interacts with the world can also support the development of a mindful approach to learning and well-being.

Examples for Use in VLMs:

Using embodied learning can be introduced through virtual reality type tools. Recognizing how your body is feeling in response to various scenarios can be discussed and supported in the groups, using age appropriate material. This understanding of physical responses such as fear, adrenaline, emotional triggers can all be linked back to the physiological responses that are experienced through perpetrating or experiencing cyberbully.

Adaptive Teaching

All learners are different. However, most educational presentations and materials are the same for all. This creates a learning problem, by putting a burden on the learner to figure out how to engage with the content. It means that some learners will be bored, others will be lost, and very few are likely to discover paths through the content that result in optimal learning. Adaptive teaching offers a solution to this problem. It uses data about a learner's previous and current learning to create a personalized path through educational content.

Adaptive teaching systems recommend the best places to start new content and when to review old content. They also provide various tools for monitoring one's progress. They build on longstanding learning practices, such as textbook reading, and add a layer of computer-guided support. Data such as time spent reading and self-assessment scores can form a basis for guiding each learner through educational materials. Adaptive teaching can either be applied to classroom activities or in online environments where learners control their own pace of study.

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Examples for Use in VLMs:

Adaptive teaching is ideal for mixed age groups, where the benefits and impact of different forms of content can be assessed and compared. If the children at each group can personally begin to understand their learning styles, and recognize that each may benefit from using different forms to create their own personal learning opportunities, feeding this back to the wider group and then possibly testing the effectiveness of this by linking with students of similar learning styles and comparing notes. Such self-knowledge will help teachers adapt to provide more suitable modes of learning in other subjects too.

Analytics of Emotions

Automated methods of eye tracking and facial recognition can analyze how students learn, then respond differently to their emotional and cognitive states. Typical cognitive aspects of learning include whether students have answered a question and how they explain their knowledge. Non-cognitive aspects include whether a student is frustrated, confused, or distracted.

More generally, students have mindsets (such as seeing their brain as fixed or malleable), strategies (such as reflecting on learning, seeking help and planning how to learn), and qualities of engagement (such as tenacity) which deeply affect how they learn. For classroom teaching, a promising approach is to combine computer-based systems for cognitive tutoring with the expertise of human teachers in responding to students' emotions and dispositions, so that teaching can become more responsive to the whole learner.

Examples for Use in VLMs:

Cognitively this may work better with older students. However, supporting all age groups to self-reflect on items such as having fixed opinions can be managed and taught, for example learning how to learn. These tools will have applications beyond cyberbullying. The spiral of self-reflection can be taught using age appropriate problems and language under the main headings: consider a problem, analyze [break down], consider [as in the previous technique of computation] and then propose solutions, test each, make decisions. Then the spiral begins again, by reflecting on the success or effectiveness of the solution that was decided upon. Challenges in the form of a proposed problem can be set and reflected upon.

Stealth Assessment

The automatic data collection that goes on in the background when students work with rich digital environments can be applied to unobtrusive, 'stealth', assessment of their learning processes. Stealth assessment borrows techniques from online role-playing games such as World of Warcraft, in which the system continually collects data about players' actions, making inferences about their goals and strategies in order to present appropriate new challenges. This idea of embedding assessment into a simulated learning environment is now being extended to schools, in topics such as science and history, as well as to adult education.

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The claim is that stealth assessment can test hard-to-measure aspects of learning such as perseverance, creativity, and strategic thinking. It can also collect information about students' learning states and processes without asking them to stop and take an examination. In principle, stealth assessment techniques could provide teachers with continual data on how each learner is progressing.

However, much research remains to be done, both to identify the measures of student learning process that predict learning outcomes for different learning systems and to understand the amount and format of student learning data that are useful to teachers. Concerns have been raised about collection of vast amounts of student learning data and the ethics of using computers to monitor a person's every action.

Examples for Use in VLMS:

If this concept of collecting data that is being generated from other actions is open, transparent and in line with data protection, and engaging them in the whole action then some useful tools can be used, such as some of the instant online feedback tools that are available. These can be direct polls conducted on their own devices where they can see results on a screen. The group themselves could analyze the data and see what other relevance it has a fully open manner.

Summary

The use of innovative learning strategies has been shown to have direct application for the development of the Vertical Learning Modules. Teachers can use the examples provided to develop their own lesson ideas, some may be one-off and some may involve longer-term work and research. Students will benefit from working in mixed age groups, while teachers will need to manage such groups appropriately, recognizing the emotional and the cognitive stages of development of each group, tailoring the work to suit.

Section 2: Primary Research

Introduction

The Primary Research for the APPs project was conducted in a variety of ways, based upon the emerging findings of the secondary and the baseline research. It was determined that surveys would provide the main bulk of the research, to be conducted among the key stakeholders in the partner schools: the teachers, students and the parents.

APPs Baseline Research

The baseline research was in the form of a survey sent to all partners. The purpose of this survey was to establish a clear picture of the schools involved, statistically and with regard to relevant issues in each country and school, such as existing cyberbullying policies. Differences emerged with some schools, for example, having policies and others not.

All partners responded, and the sharing of this information across countries is expected to provide opportunities to learn from each other. The link to the baseline survey is in the appendices.

APPs Primary Research Surveys

The surveys, using GOOGLE Surveys, were sent out for distribution among the APPs project partners. All ethical issues were explained in detail and good practice was followed in terms of anonymity and confidentiality. Survey questions were administered to three groups in the partner countries with participating schools (Italy, Spain, Romania, Poland):

- Parents
- Teachers
- Students

The rate of the numbers responding were exceptionally high. This ensured a satisfactory outcome for the findings and reinforced the validity. Among the students, 440 responded out of a possible 1245 (as per figures supplied in the baseline survey for each school). At 35%, this is a notably high response rate for young people when they are self-responding. For parents and for teachers, the response rates were extremely high: Teachers were 99 out of a possible 122 (as per figures supplied in the baseline survey for each school), and Parents were 142 out of a possible 192 (as per figures supplied in the baseline survey for each school). These response rates reflect the keen interest in, and importance of, the subject of cyberbullying and the many issues arising.

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Key Points Emerging from Surveys

The detailed summaries are included in Appendix A. It should be noted that the percentages mentioned reflect the numbers responding to each particular question rather than a percentage of the overall response rate.

Key points: Students

- ☐ 23.6% did not understand cyberbullying
- ☐ 41.6% did not know about school's response
- ☐ 69.6 did not know what supports were in school
- ☐ 46.1% said they had not discussed cyberbullying with their parents
- ☐ 16% said teachers had not discussed with them
- ☐ 52.7% do not know what to do if it happens
- ☐ 9.6% direct experience
- ☐ 38.9% indirect experience

Key Points: Teachers

- ☐ 55.6% have policies in place
- ☐ 46.9% have procedures
- ☐ 59.6% do not know about school/community supports
- ☐ 87.8% said they discussed cyberbullying in school [65.2% of these were informal]
- ☐ 61.9% had no professional support – but 54/3% had in-service training!

Key Points: Parents

- ☐ 94.4% understood cyberbullying
- ☐ 75.7% discussed with children [n.b. children claimed only 46.1%]
- ☐ 55.4% knew of school supports [32.8% knew community supports]
- ☐ 67.2% said they would recognize signs of cyberbullying

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- 📄 9.8% said a child had experienced it
- 📄 Age 12 has a peak rate for experiencing cyberbullying
- 📄 24.3% approached school re their child (n.b. 61.5% {26 people} were not satisfied with school's response)
- 📄 25% sought outside help
- 📄 11.1% used the police
- 📄 72.3% discuss online safety
- 📄 66.2% of 139 responses allow children use ICT in their bedrooms (53% restrict usage/time)
- 📄 Many parents said a solution was to be more interested in their children's activities and lives

Learning Objectives

Raised from the results of Primary Research and based on the results of Background Research, the learning objectives have been designed. They represent the basis on which Vertical Learning Modules will be developed. These are:

Objectives

Through the various activities, partners will develop their knowledge, skills and attitudes on the following issues:

- What cyberbullying is
- Who is affected by cyberbullying
- How cyberbullying is conducted by young people
- Understanding linkage between direct bullying and cyberbullying
- Profile of perpetrators
- Perpetrators' aims in conducting cyberbullying
- How and whether perpetrators operate in groups
- How perpetrators attract an audience
- Profile of typical targets
- Understanding the factors that create a cyberbullying climate
- Understanding the effects of being cyberbullied
- Longer-term consequences and outcomes of conducting cyberbullying
- The use of Vertical Learning in practice
- Expand the knowledge on the subject of bullying and Cyberbullying
- Participate in the debate by having acquired information
- Challenging students with ideas that are different from their own

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- Take part in group work and enhance individual contribution
- Confronting with pupils of different levels of education, employing your creativity
- Create awareness on the dynamics of the network and social networks
- Develop strategies and create “antibodies” as a means to defend themselves against the often passive and prolonged use of Smartphone and Tablet
- Understanding the importance of the other, of emotional reflection and of the need for empathy
- Understanding the risks associated with social networking and smartphone addiction

Critical Issues and Recommendations

From the survey findings, a number of critical issues emerged. It would be useful to consider these carefully in developing the Vertical Learning Modules. In addition, consideration can be given to using some of the VLMs to address issues such as providing information for parents, fostering communication about cyberbullying between children and parents and information on available supports.

- ☐ More information is required for children regarding what to do in the case of cyberbullying, whether witnessing or experiencing it.
- ☐ Paying especial consideration to the peak negative experiences is critical at the age of 12, in advance of this age, during it and among older child who may be able to play buddy/mentor roles.
- ☐ Review of current policies and procedures, in consultation with families and children, is recommended strongly
- ☐ More consultation/cooperation with children and parents in drawing up new policies and procedures is essential
- ☐ Recognition of the intrusive nature of cyberbullying and the psychological impact is vital
- ☐ More information for parents regarding supports already existing is recommended
- ☐ More information for children on all aspects of cyberbullying, which should be developed in the VLM’s and in the development and dissemination of the policies and procedures, is strongly endorsed and recommended.
- ☐ Children, teachers and parents have useful ideas for preventative strategies.
- ☐ Helping parents communicate issues with their children is a key role and objective in any interventions.

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Conclusion

The primary research has provided useful results for the APPs project, addressing the key questions outlined in the project application. It has reached out and included all stakeholders in each partner country and offers a useful framework to respond to this growing phenomenon through the VLMs.

The findings of the secondary research illustrate the widespread nature of this phenomenon. The setting out, with examples for use in the VLMs of innovative learning strategies gives strong evidence-based findings to enable the partners in this APPs project to realise the core aims of APPs.

When partners integrate the findings of all parts of the research they will be facilitated to develop successful Vertical Learning Modules that will provide a sustainable resource that may be shared internationally with schools and address in a meaningful manner the phenomenon of cyberbullying.

Appendices: available on G-Drive

Teacher Survey

https://drive.google.com/drive/u/0/folders/1-oe4pH7z5--MSX1T5_C7XFnfK4SQyN0z?ogsrc=32

Student Survey

https://drive.google.com/drive/u/0/folders/1-oe4pH7z5--MSX1T5_C7XFnfK4SQyN0z?ogsrc=32

Parent Survey

https://drive.google.com/drive/u/0/folders/1-oe4pH7z5--MSX1T5_C7XFnfK4SQyN0z?ogsrc=32

Students survey Age Comparison

https://drive.google.com/drive/u/0/folders/1-oe4pH7z5--MSX1T5_C7XFnfK4SQyN0z?ogsrc=32

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