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Information literacy and social networking sites: challenges and stakes regarding teenagers' uses

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Abstract: Research has shown that information seeking can act as a motivation to use SNS. In this paper, we identify patterns of information uses of SNS among teenagers specifically. There is evidence to suggest that teenagers use SNS for information purposes both informally outside of the school environment and also as part of their academic studies. We explore three important implications of this phenomemon in terms of students' information literacy: firstly, the evaluation and validation of information obtained *via* SNS; secondly, the significance of these practices for collaboration and other 21st century skills; and finally, the porosity of formal and informal learning contexts. We conclude by reflecting on the ways in which current IL models and teaching practices need to adapt to accommodation teenagers' uses of SNS.

Keywords: social media, social networking sites, information uses, teenagers, information literacy, 21st century skills, empowerment

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Maîtrise de l'information et sites de réseautage social: défis et enjeux relatifs aux usages des adolescents

Résumé : Des recherches récentes démontrent l'importance des usages informationnels des réseaux sociaux. Dans cet article, nous traitons de ces usages informationnels des réseaux sociaux par les adolescents. Des résultats montrent en effet que les jeunes utilisent les réseaux sociaux à des fins d'information, à la fois de manière informelle en dehors de l'environnement scolaire et également dans le cadre de leurs études. Nous explorons trois implications importantes de ce phénomène quant à la

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maîtrise de l'information (*information literacy*) par ces jeunes : l'évaluation et la validation des informations obtenues par ce biais; les pratiques de collaboration au sein des compétences du 21e siècle; les enjeux, en termes d'inégalités, posés par la possible porosité des contextes formels et informels. Nous concluons par une réflexion sur la manière dont les modèles d'*information literacy* et les pratiques d'enseignement pourraient intégrer ces pratiques.

Mots-clés : media sociaux, réseaux sociaux numériques, pratiques informationnelles, adolescents, information literacy, compétences du 21ème siècle, capacitation

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Introduction

In this paper, we focus on the social networking sites (SNS) as defined by boyd & Ellison (2013). From a "uses & gratifications" point of view (Ruggiero, 2000), several kinds of motivations can explain the needs that SNS, Facebook, Twitter or Snapchat among others, satisfy for people, as Whiting and Williams (2013) described: social interaction, information seeking, passing time, entertainment, relaxation, communicatory utility, convenience utility, expression of opinion, information sharing, and surveillance/knowledge about others. We focus here especially on teenagers' uses. Teenagers are often great SNS users as many surveys show, but here we want to go beyond numbers and try to understand more deeply how teenagers really use SNS and what they use them for. More specifically we choose to pay attention to teenagers' information uses of SNS.

Digital practices of teenagers and young adults have been widely studied. The heterogeneity among experiences and skills has been one of the main findings for more than a decade (Aillerie, 2012; Hargittai & Hsieh, 2013; Mercklé & Octobre, 2012; Robinson, 2015). Regarding SNS, the majority of research has attempted to describe how social uses of SNS, as well as communication tools in general, play a major role during adolescence. Again, a number of authors highlight inequalities among young users regarding social and communication skills (e.g.boyd, 2014). While SNS are frequently dismissed by schools and perceived more as danger than an educational opportunity, it seems crucial to understand better whether teenagers find out, seek or share information on SNS and for what purposes.

Research shows that an information motivation to use SNS exists and, in this paper, we firstly identify emerging results about information uses of SNS focusing on teenagers. Secondly, based on this literature review, we will explore issues these findings raise in terms of empowerment.

1. Youths' motivations to use SNS

1.1. *Information uses of SNS*

SNS form complex objects to study. It is difficult to extract a certain type of use, such as information, while the more visible motivation remains socialization. This is especially the case for young people for whom the social group of peers contributes to the construction of personality (Pasquier, 2005). SNS are nowadays one of the main "places" where peers gather. Nevertheless, results from empirical studies show the reality of specific information motivations to use SNS. Several studies have addressed one particular information need that people satisfy by using SNS such as health (Azusa & Costa-i-Front 2013), travel information (Amaro et al, 2016), purchase intention (Wang, Yu & Wei, 2012) or job search (Nikolaou, 2014). From a political point of view, it has been widely demonstrated that information retrieved and shared on SNS can foster commitment (Amsidder et al, 2012). More widely, SNS currently play an important role in press and breaking news information (Newman, Fletcher, Levy & Nielsen, 2016). Regarding young people and college students more specifically, emerging findings describe information purposes that could motivate them to use SNS. In Norway, Brandtzæg and Heim (2009) carried a qualitative survey on SNS users (aged from 16 to 29): 10% of the participants listed information need as a reason for using SNS. It is noticeable that younger participants cited academic homework as a motivation to seek information on SNS. However some of the most significant studies that demonstrate the use of SNS as direct information sources concern undergraduate students. Over several years, the research led by Kyung-Sun Kim investigated the kinds of social media used as information sources by college students and actions users take to evaluate the trustworthiness of information. This showed that a range of social media are used for everyday life information seeking while some specific sources (Wikipedia, blogs, YouTube, Q&A sites and forums) are used for both everyday life information and, here again, academic purposes (Kim et al, 2011; Kim et al, 2014).

1.2. *Are teenagers concerned?*

From these results, we may wonder whether students from high school could have similar information habits. *Les stratégies d'information des jeunes Bretons* is a recurring survey led by the Réseau Information Jeunesse Bretagne, a public service in France, since 2007. The last issue of this survey (n=3914, 72% 15-19 years old) underlined the importance of information provided by social interactions (relatives, friends, advisors…) (Centre Régional Information Jeunesse Bretagne, 2013). The Internet remains in the first place (88%) but friends (54%), parents and family (50%), followed by teachers, educators and leaders (26%) arrive in second, third and fifth places. The authors describe this result as a strong trend when compared to the findings of the previous surveys. They explain this kind of information seeking strategy by the need of youths for reliability as they are likely to be more confident in information provided face-to-face by a person. The importance of face-to-face contact was a central result about information habits of teenagers indicated earlier by

Agosto and Hughes-Hassell (2006) when establishing their models of urban teens' everyday life information needs. Furthermore, another strong result of the *Les stratégies d'information des jeunes Bretons* survey is the growing place of SNS in these young people's information uses: when all ages are included, in 2013, SNS were used by 48% (28% in 2010) and search engines by 72% (93% in 2010). The 15-19 years old participants use mostly search engines (67%) and navigation (66%), closely followed by SNS (59%).

A recurring study from Switzerland, called JAMES (Jeunes Activités Médias) also sheds light on teenagers' information seeking on SNS (Willemse et al, 2014). Since 2010, this representative study has examined the use of media by young people (aged from 12 to 19) every two years. In 2014, video-sharing websites such as YouTube were included in the survey as an information channel. The participants (n=1086) declared that this kind of website is not useful for leisure exclusively but for information seeking as well. While in the last JAMES investigations, search engines were still ranked top of the most frequently used online information channels, they now have to share the first places with SNS. For the 2014 survey, across all ages, video portals were used by 83% as web-based information sources, search engines by 78%, SNS by 78% and press portals by 41%. Regarding the SNS declared as information channels, they were used by 73% of 16-17 years olds (vs 83% for the search engines) and by 86% of 18-19 years olds (vs 89% for the search engines).

1.3. *Academic uses of SNS*

Findings from a web-based survey carried out in 2014-15 among students from the UK, France, Thailand and Denmark show that SNS are information sources for most teenagers (Aillerie & McNicol, 2016). A short online questionnaire (10 questions) was developed. One of the limitations of this method is that it may encourage responses from those students who are most comfortable online and have good access to the internet. However, we decided this potential issue was outweighed by the fact that an online questionnaire allowed us to gain wide international coverage.After questions aimed to gather basic demographic information, participants were asked about their general use of SNS (number of accounts, type of SNS) and their information uses of SNS (type of SNS used to seek information, frequency, topics sought, content shared or published on SNS). Regarding the topics sought, we predefined 13 categories from the literature review and from two pretest interviews of the questionnaire. The responses were analyzed with SPSS. Descriptive statistics were generated for all the questions and chi-squared analysis conducted for investigated differences between gender categories of respondents. In total, 473 responses were received from people aged between 15 and 18. The findings suggest that, like their older peers, 15-19 year olds make use of a wide range of possible information sources, including those sources where social interaction plays a decisive role. The results showed that more than half the respondents (55.8%) used SNS to seek information regularly and almost a further quarter (23.7%) did so occasionally. Facebook was the site used most regularly to search for information (39.1%), followed by

YouTube (30.2%) and Twitter (20.0%). A little over half the number of students who used Facebook regularly in general used it regularly specifically to search for information, but more than four-fifths of the number using Twitter and YouTube in general used them specifically to search for information. The fact that even SNS with a strong social element such as Facebook were regarded as information sources by a large proportion of those surveyed means that it is important to look deeper into the question of the multiple motivations for using SNS. This demonstrates that social motivations, such as maintaining links with friends and following conversations, are definitely not the only motivation for teenagers to make use of SNS or, more precisely, that social interaction plays a great role in their information uses. Unsurprisingly, information related to friends was the most common type of information respondents looked for on SNS (69.8%). But this was followed by information about cultural events (56.0%) and international news (49.3%). Regarding academic purposes, more than one-quarter of students (27.7%) said they used SNS to find information for a task at the direction of a teacher and one-fifth (20.3%) used SNS to find information for a school project independently (i.e. not explicitly directed teacher). Around the same percentage (20.1%) said they had used SNS to find additional information about topics taught in class. In addition, over one-fifth (22.4%) used SNS to search for information related to educational and vocational guidance. These findings also highlight the heterogeneity of young people's uses of SNS for information purposes. While some teenagers make use of a wide range of SNS for both academic and everyday purposes, others restrict their information seeking to non-academic purposes, or do not feel they use SNS for information seeking at all.

Other research has indicated that college students resort to SNS, mostly Facebook, to organize their academic work. Selwyn (2009) conducted ethnographic analysis of the interactions of 909 students (18-25 years old) on Facebook. In response to the representation that the SNS uses are likely to be completely separated from academic concerns, the objectives of this study were specifically designed to question the reality of the activities of these students on Facebook. The author highlighted several types of interactions related to academic work and university life: exchanging information about courses or even about teachers themselves; sharing practical information (e.g. timetable) or information directly related to academic work (e.g. bibliographic requirements, coming assessments or homework assignments); and passing on teachers' advice or reading recommendations. Even if they are not specifically designed as such, SNS can be used by students to contact peers more easily, as well as to understand academic requirements or to manage collaboration. As demonstrated by the works of Lampe et al (2011) in the United States or Roland (2013) in Belgium, SNS are indeed known to, and localized by, most of the college students surveyed, in preference to the multiple platforms or virtual learning environments provided by universities, allowing different interaction modes and gathering of information in a single place.

A study led by Khan et al (2014) (n=690) aiming to address the lack of literature on SNS uses for academic purposes by high-school students found that more advanced students in the curriculum are also more likely to collaborate on SNS for school. The number of "active friends", rather than the total number of relationships, plays a role in this possible collaboration, as well as the positive perception of these "friends" as a possible help source. These results can be put into perspective with the French USATICE survey's conclusions. For 18 months, Cottier and Burban (2014) interviewed about 80 education professionals and 200 high school students (face to face interviews, online questionnaires and *in situ* observations). The authors found out that if the students have obviously personal digital practices, just a few of them acquire academic proficiencies on this basis, skillfulness in information seeking and collaboration especially. The analysis highlighted a gap between the most studious students who make their daily Internet uses scholastically profitable and students in difficulty who have personal practices sometimes competing demands of school. The most studious students cooperate for their homework assignments and know how to use non-institutional artefacts (e.g. Facebook chat) that allow them to complete or catch-up with courses, to exchange on teachers' instructions, to share search results, to cooperate, etc. The authors describe this finding as a deep pattern: generally speaking high school students use the same kind of tools but their uses are highly differentiated according to their relation to the school world more than to the technique itself. In this way USATICE study showed that students use multiple resources and tools to perform their academic tasks, resources and tools that compose a "transitional space" ("*espace intermédiaire*"): this space does not refer only to school practices, nor solely personal practices, is not confined to school grounds nor private life; it is composite, combining uses of academic and non-academic artefacts: academic websites for subjects, personal email accounts, Twitter, Facebook and so forth. The authors view this as a complex composition that always comes under the competency of the individual actor.

2. Issues and stakes for Information Literacy (IL)

2.1. Validating information as a core skill

The possibility of learning from SNS is often limited within schools due to filtering restrictions. However, there is an increasing expectation that the role of schools should be to emancipate students with what have been termed '21st century skills' (Binkley & al, 2012). 21st century skills are the competencies required to be successful in learning, in the workplace and to live effectively in the 21st century; they include collaboration, communication, ICT (or digital) literacy, creativity, critical thinking and problem solving (Voogt & Roblin, 2012). Attempting to teach these skills without access to collaborative, creative digital communication tools such as SNS, presents a significant challenge. Moreover the restrictions mentioned above deny students experience of the real uses of SNS, which are definitely not limited to youth purposes and are noticeably heterogeneous. As pointed out above, information

uses of SNS could be tightly linked with academic goals, occurring at school and beyond. This is not a totally new situation, as many academic activities have never taken place solely with the formal school environment. However, this phenomenon is greatly accentuated in the landscape of the digital era and this raises crucial learning stakes in terms of IL.

The first, and maybe the more significant, point is related to the validation of information, one of the core competencies of IL (ALA, 1989). Validating information found and shared on SNS requires new skills, or at least a wider dimension of capability to assess information, as the authors of the Metaliteracy framework, point out: "our understanding of information in this complex environment has been radically altered by a revolution in authority, challenging the notion of expert, and replacing it with the new distributed authorities of networked participants" (Mackey & Jacobson, 2014, p.46). Using information on SNS involves being able to assess the information that comes from both social interactions and algorithms based on individual profiles or subscriptions, across a complex range of sources from personal opinions to press releases by news agencies. Furthermore, not only information and facts, but also misinformation or rumors, can spread "virally" through SNS (Nahon & Hemsley, 2013). This means it is important to be able to characterize the information available on SNS as such but not necessarily reject it straightaway for what it is. Critical thinking and analyzing skills are then crucial to identify the source, to compare information, and possibly share or publish it. This is not specific to SNS, but SNS increase the necessity of these kinds of learnings.

2.2. *Implicit learnings: collaboration and organization*

The second point is that collaboration is one of the skills most strongly demanded by the 21st century workplace (Dede, 2010). While the importance of collaboration has been recognized as a feature of the changing educational landscape, IL models remain focused on individual skills and endeavors for the most part. Models often refer to the "information literate individual" or "information literate person" (ACRL, 2000, SCONUL, 2011), but make little or no reference to appropriate methods of sharing information or collective strategies to validate information. It would therefore appear that the growing emphasis placed on teamwork in relation to the use of new technologies and social constructivist approaches to learning has not been fully reflected in the development of information literacy models which fail to frame information seeking as a social process. While this may not be a major problem when dealing with more traditional information sources, it is problematic when dealing with SNS. Students are increasingly searching for information on SNS and using SNS to share the work they create. They also need to reflect on and assess the information they obtain *via* SNS, both at school and in their daily lives. Because, as indicated above, SNS are not widely available (or encouraged) in school, students are denied opportunities to develop these scholarly skills. Moreover, these uses highlight the organizational and productive dimension of the information research process that is crucial but often left on the sidelines. Students also invent "on the job" collective organizing strategies: division of tasks, validation of done work and

planning of future work, adjusting to the academic requirements and end products that are requested. These organizational strategies frequently take place outside of the school, *via* Facebook messenger or Google hangouts for instance, and could remain at best implicit, at worse not taught at all.

2.3. Porous contexts and inequalities

From an educational and ethical point of view, it is not conceivable to let these experiences grow only in the personal sphere, family or household, without risking aggravating inequalities in terms of digital skills where inequalities already glaring (Ben Ali et al, 2015; Hatlevik & Christophersen, 2013). In an illustration of the porosity of students' lives within and outside school, a study showed that gaps exist between what academic librarians and undergraduate students each deem useful when assessing the quality of information available through social media (Kim Sin, 2016). Librarians (n=189) appreciate strategies reminiscent of those used for evaluating a typical scholarly source, such as a journal or a book while students (n=1355) often operate strategies that rely on others' reactions and physical characteristics of the postings (e.g. length, images and sounds posted). Similar findings were demonstrated by the works of Cordier (2011) focusing on representations developed by middle school students on finding information on the Internet then comparing teaching representations and practices implemented by school librarians. The risk of such differences in approach is a total mismatch between librarians' or teachers' conceptions and their students' conceptions or behaviors. This means that advice and training offered by librarians might not make sense for students. In summary, these results about teenagers' uses of SNS call for a wider dimension for IL to take into account students' strategies in obtaining, evaluating, producing information or collaborating *via* SNS and the different contexts where these uses take place.

To a certain extent mistrust still exists within the academic world towards students' personal digital habits. They are often seen as unsafe, differentiated from serious work that is done at school and from best practices taught. Although teachers are regularly encouraged to do more to help develop students' 21st century skills, as Rutowski et al (2011) acknowledge, "significant challenge remains in integrating ICT into the pedagogical practices aimed at developing 21st-century skills" (p. 190). One issue, as Voogt et al (2013) argue in line with the results exposed above, is that the development of 21st century skills can (and often does) take place outside formal education and may therefore go unacknowledged. The skills students develop through their use of social media outside school could prove useful if teachers are able to capitalize on this. One of the key precepts of social constructivism (Vvgotsky, 1978) is that learning extends to the home and other out-of-school environments and activities and all learning situations should be related. As Lewin and McNicol (2014) point out, "the increasing use of social media is another way in which the learning environments are changing to facilitate the development of 21st century skills...this can impact on digital literacy, collaboration and communication skills, creativity and critical thinking as students are presented with new ways to work together, create new types of learning output" (p.194).

Conclusion

As we have argued above, current IL models and approaches are often not well-suited to the needs of SNS. We would suggest that IL models need to be concerned with the needs of learners in practice, not merely as theoretical ideals. At its most basic level, this means not ignoring SNS, but acknowledging that they are used by teenagers for informational purposes, possibly in creative and sophisticated ways. Filtering SNS is not an appropriate way of dealing with such information sources, rather they need to be harnessed and exploited to the full. This is likely to mean an increased focus on collaboration. It is important that any IL education takes account of, and capitalizes on, the pre-existing knowledge and practices of learners, but this is especially relevant in the case of SNS which are so widely used outside of formal education settings. As well as the differing experiences of students, IL education also needs to take account of differences between the types of information on SNS and between different users. Information about friends and information about international affairs, for example, are judged by different criteria; there is no 'one size fits all' approach to evaluating information from SNS. Information uses of SNS by teenagers present us with a concrete situation where digital literacy should be directly and critically implemented to inform the personal and social life of students as future citizens. SNS are indeed used for information, or even decision-making, in many areas of people's personal and social lives, such as health, educational and vocational guidance or politics and learnings developed at school are crucial here.

The empowerment of everyone by using SNS (for socialization, information and participation) is related directly to the consideration of the educational issues they raise. Technology is not an empowering resource in its own right, but SNS and other technologies can empower learners when they are combined with education about the ways in which they can best be used.

The research field of digital education has made few links between institutional settings and informal learnings; those which do exist are focused mostly on formal settings of school/classroom, in particular to measure impact of ICT on learning gains (Selwyn, 2010). Teenagers' uses of SNS raise educational major issues, but also epistemological and methodological points, we would expose within a coming paper.

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