Social media integration for the purpose of self-regulated learning

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Symposium

Title: Effective mobile and social technology integration for teacher learning

Filled out by organiser and/or discussant

General abstract of the symposium (English) *(max. 150 words)*

which states the theme and the objectives of the symposium

A growing body of research has shown that integration of mobile and social technology (hereinafter technology) could enhance the effectiveness of teacher learning activities. In practice, however, few teachers are using technology for educational goals. In fact, teachers are looking for advice on how to best use technology for teaching and learning. We aim at getting a better view on the circumstances that may explain when technology integration yields desirable educational outcomes.

In the first contribution the reasoned action approach framework is used to follow foreign language teachers in their intentional use of mobile technology in their lessons.

The second contribution demonstrates a systematic literature review that examines factors that influence the application of social media in classrooms and how these factors are related.

In the third contribution, social media integration is studied within higher education. Grounded on a literature study, design principes are elaborated and applied within teacher education.

How does this symposium contribute to the improvement of educational practice and learning ? *(max. 200 words)*

In this symposium, we focus on the integration of technology in educational settings that are guided by the teacher because teachers can act as intermediaries between students' technology use and outcomes.

Overall the results reveal that, despite it's positive effects on student learning and motivation, intention for technology integration is moderate. This is partly due to the limited communication in educational institutes about the benefits and policies of technology integration. A second cause concerns the lack of support to improve teachers' TPACK (technical pedagogical content knowledge) during integration. Implications for the educational use and integration of mobile technology and social media are provided.

Contribution 1

Title: Foreign language teachers and their use of mobile phones in the lessons

General abstract Contribution 1 (English) *(max. 150 words)* including the aims/objectives of the research, the methodology, the results, and the main conclusions

The research was aimed toward foreign language teachers' use of mobile technology in their lessons. The influence of background (institute's policy, teachers' personal use, and teacher's didactical knowledge) and foreground (attitude, perceived norm, perceived behavior control) variables on teachers' intention regarding the use of mobile phones in the lessons was investigated. The reasoned action approach (RAA) framework was used (Fishbein & Ajzen, 2010). The results revealed that there were differential effects of the background and foreground variables on intention when basic mobile versus smartphone users and less-frequent versus high-frequent users were compared. On the whole, intention was moderate. Regarding the institute's policy, teachers from the same institute had contradictionary answers. Implications are that institutes should improve their communication about mobile phone policies, communicate the benefits of using mobile phones in education, and consider to provide each language teacher with a smart phone.

Detailed abstract Contribution 1

1. **How is this study founded by theory and/or how does it originate from practice?** *(max. 200 words)*

   Fishbein and Ajzen's (2010) reasoned action approach was used to construct a questionnaire with items regarding teachers' intentions to integrate smartphones in their lessons, their attitudes, perceived norm and perceived behavioural control towards using smartphones in language lessons, items regarding their underlying behavioural beliefs, and items regarding three background factors: knowledge of using mobile phones for personal purposes, language centre's policy and knowledge of using smartphones for didactic purposes.

2. **What are the central research goal(s), problem(s), and/or questions in this study?**
(max. 150 words)

A growing body of research has shown that mobile technology could enhance the effectiveness of common language learning activities. In practice however, few teachers are using mobile technology. Therefore, the research goal was to examine factors that influence foreign language teachers' use of mobile phones. The research questions were as follows: **(a)** how do the foreground variables (attitude, perceived norm, perceived behavior control) influence intention to use mobile phones?, **(b)** what are the underlying outcome, normative, and control beliefs that affect these foreground variables?, and **(c)** how, in turn, do background variables (institute's policy, teachers' personal use, and teacher's didactical knowledge) affect these underlying beliefs?

3. **Which research design did you use in this study and which methods did you use to analyse the data (i.e. subjects, instruments/intervention and procedures)?** *(max. 200 words)*

63 foreign language teachers of 15 out of 18 language centres participated in the study. The questionnaire was based on the sample provided by Fishbein and Ajzen (2010) and consisted mostly of seven-point Likert scales. The questionnaire started with six general questions regarding for example the type of contract teachers had with the institute, whether they worked full time or part time and which language they taught. The next section contained items regarding teachers' possession and use of mobile phones for personal and didactic purposes and the language centre's policy towards mobile phones in the classroom. The remaining questions related to the seven variables of the reasoned action model. The questionnaire was distributed in digital form and administered in March 2014. The document was in Dutch despite the limitation for some English teachers who did not have Dutch or who had Dutch as a second language; it was considered undesirable to work with two versions (English and Dutch) for practical reasons and for reasons concerning the validity of the study. The three hypotheses were tested using bivariate correlation and multiple regression analyses. Data were disaggregated into subgroups in order to examine if these differed from the aggregate.

4. What are the results of this study? *(max. 150 words)*

The first hypothesis testing confirmed that the aggregate, attitude and perceived norm were significant predictors of teachers' intentions to integrate smartphones, while perceived behavioural control was not. For the subgroup of smartphone owners however, in addition to attitude, perceived behavioural control was a significant predictor, while perceived norm was not. The second hypothesis testing confirmed that for the aggregate, all foreground variables could be explained by their underlying beliefs. However, for the subgroup of smartphone owners, only attitude and perceived behavioural control were explained by their underlying beliefs while perceived norm could not be explained by their normative beliefs. The third hypothesis testing showed that none of the background variables seemed to significantly influence teachers' behavioural beliefs, neither for the aggregate nor for the subgroup of smartphone owners.

5. What are the main conclusions of this study? *(max. 100 words)*

Practical implications were formulated. Firstly, the contradicting responses regarding the language centre's policy highlighted the importance of clearly informing teachers about the institute's policies and furthermore, of providing support that is in accordance with these policies. Secondly, employers who want to promote the integration of smartphones should try to influence teachers' outcome beliefs by showing them how smartphones can effectively be used in language lessons and by telling them about the benefits. Finally, employers could consider providing each teacher with their own smartphone and encourage them to use it for personal purposes to support exploring and experimenting with the technology.

6. **Who (should) use the results of this study and how do the results contribute to the improvement of educational practice?** *(max. 150 words)*

The results should be used to inform employers (i.e., school leaders) about how to promote the use of mobile phones by foreign language teachers as foreign language education seemed particularly suitable for mobile learning. Indeed, projects in this field showing effective use of mobile technology included teachers who texted English vocabulary lists to students (Thornton & Houser, 2005), an English course letting distance learners view live broadcasts of classroom lessons and participate through texting and voting (Wang, Shen, Novak, & Pan, 2009) and numerous programmes that used mobile phones for vocabulary quizzes, polling and voting systems, task-based learning and blogging (Chinnery, 2006).

7. **How are you planning to make your session interactive?** (max. 100 words)

The following methods could be considered as ways of increasing interactivity in your sessions: Ask delegates to predict answers or results to the research questions; before elaborating your central concept, ask delegates for their ideas and/or experience with the concept; 'demonstrate' your research or treatment by distributing the questionnaires you used or by including video clips of the study set-up; ask delegates to offer explanations for your findings; ask delegates to think about any implications for practice; invite some participants in your study to take part in the sessions, for example, by Skype; give out tasks to delegates, for example, let them brainstorm the topic or research question; organise a small pair discussion about your results; use Twitter with a hashtag; present statements or polls to delegates and ask them to vote 'for/against'; 'yes/no'; 'green/red'.

We will use the padlet APP to brainstorm the potential benefits of using mobile phones in education and what strategies should be followed to let teachers adopt this particular technology.

8. **List of references**

Chinnery, G. M. (2006). Emerging Technologies, Going to the MALL: Mobile Assisted Language Learning. Language Learning & Technology, 10(1), 9-16.

Fishbein, M., & Ajzen, I. (2010). Predicting and changing behavior: The reasoned action approach. New York: Psychology Press.

Thornton, P., & Houser, C. (2005). Using mobile phones in English education in Japan Journal of Computer Assisted Learning, 21, 217-228.

Wang, M., Shen, R., Novak, D., & Pan, X. (2009). The impact of mobile learning on students' learning behaviours and performance: Report from a large blended classroom. British Journal of Educational Technology, 40(4), 673-695. doi: 10.1111/j.1467-8535.2008.00846.x

Contribution 2

Title: Social media in classrooms: a curse or a blessing?

General abstract Contribution 2 *(max. 150 words)* including the aims/objectives of the research, the methodology, the results, and the main conclusions

This systematic literature review aims to examine factors that influence the application of social media in classrooms and how these factors are related to each other. Based on a large number of included studies, we develop a model, that concerns a student, a teacher, and a school level. Findings show that the majority of studies focused on the student level and examined if and how social media can enhance academic achievement and student motivation. Findings indicate that indeed social media promotes student learning and motivation. Teachers' TPACK (technical pedagogical content knowledge) seems to be essential for promoting student academic achievement and motivation, however, several studies showed that TPACK can be improved.

Detailed abstract Contribution 2

1. **How is this study founded by theory and/or how does it originate from practice?** *(max. 200 words)*

   Social media are defined as internet applications that allow to create and share knowlegde time- and place interdepently and allow for interaction (Kaplan & Haenlein, 2010). Empirical studies, focussing on enriching teaching and learning with social media (e.g., Junco, Heiberger, & Loken, 2011), generally are effect studies that explore a few parts of our model (see Research questions). These studies do, however, support to develop an interrelated model of aspects at the student, teacher, and school level.

   This systematic literature review adds to theory as it examines which factors influence applications of social media in classrooms as well as how these factors relate to each other. As such, we aim to develop a model that depicts the interrelatedness of these factors. From this model, suggestions for future research can be formulated.

**2.	What are the central research goal(s), problem(s), and/or questions in this study?**
(max. 150 words)

This systematic literature review examines possible dilemmas considering social media integration in classrooms. These dilemmas concern three levels: (a) students, (b) teachers, and (c) schools. On each level, different aspects are defined. For example, on the student level: experiences, skills, motivation, and learning outcomes. On the level of teachers, such aspects are, for example, attitudes, skills, teaching strategies, and professional development. On the school level, examples of such aspects are curricula and educational vision. The levels and their respective aspects are intertwined. The systematic literature review explores the focus and findings of studies concerning social media in classrooms.

**3.	Which research design did you use in this study and which methods did you use to analyse the data (i.e. subjects, instruments/intervention and procedures)?** *(max. 200 words)*

To locate revelant studies, three databases were searched, using several keywords, such as "social media", combined with "student", "teacher", and "school". Additionally, combinations of keywords were used, aimed at the different aspects of each level (e.g, "social media, student and academic achievement"). Peer reviewed Journals and conference proceedings were included, that were published between 2005 and October 2015.

During the first selection round (based on Titles and Abstracts) over 9000 abstracts were judged against the following criteria for inclusion: (a) a focus on education, (b) the social media studied should meet our definition of social media, and (c) an empirical study. 872 studies met these criteria.

Next, the included studies were read, and we explored which level(s) and which aspect(s) were examined, which relation(s) between which level(s) and/or which aspect(s) were analyzed, and what these relations entailed. As such, we provide an overview of recent research on social media in classrooms.

4.   What are the results of this study? *(max. 150 words)*

The majority of studies focuses on the student level: Approximately 80% of all studies discussed student related aspects. Teachers (ca. 25%) and schools (ca. 10%) are less examined. Note that this adds up to above 100%, as some studies examined more than one level.

Many studies discuss application questions, such as How can teachers apply a specific social medium (e.g., Veira, Leacock, & Warrican, 2014). Many other studies discuss outcomes, such as What are the learning outcomes of using a social medium in a classroom. In these kinds of studies, academic achievement and student motivation are mostly explored (e.g., Titus, 2013).

A smaller number of studies shows that using social media can be a valuable asset of (student) teacher professional development (e.g., Tan, Tan, Wettasinghe, 2011).

5.   What are the main conclusions of this study? *(max. 100 words)*

Findings show that social media in classroom promotes student motivation and achievement. However, teachers' TPACK (technical pedagogical content knowledge; Koehler & Mishra, 2009) seems to influence this and, moreover, TPACK needs to be improved for a large group of teachers (Voogt, Sligte, Van den Beemt, Van Braak, & Aesaert, 2016). Hardly any studies examined the role of schools, such as their educational vision.

6. **Who (should) use the results of this study and how do the results contribute to the improvement of educational practice?** *(max. 150 words)*

    The results of this systematic literature review are interesting for researchers, as they show what is being studied (and what not) concerning applications of social media in classrooms. The results are interesting for practitioners, as they show which factors influence the application of social media in classroom practice.

7. **How are you planning to make your session interactive?** (max. 100 words)

    Some methods to increase the interactivity in your session could be: Ask delegates to predict answer the results to the research questions; before elaborating your central concept, ask delegates for their ideas and/or experience with the concept; 'demonstrate' your research or treatment by distributing the questionnaires you used or by including video clips of the practice in which you set up the study; ask delegates for explanations of your findings: ask delegates to think about implications for practice; invite participants of your study to intervene in the sessions, for example by Skype; give assignments or tasks to delegates, for example let them brainstorm about the topic or research question; organise a small discussion in pairs about your results; use twitter; present statements or polls to the delegates and ask them to vote 'pro or con/yes or no/green or red';...

    We will use a quick-and-dirty application of Rank Order (Carpenter & Gerhart, personal communication, June 2nd, 2016) before the presentation of the findings. In Rank Order, individuals are asked to rank things, in our case factors and aspects of applications of social media in classrooms on having the least to the most influence. If time allows, participants will be comparing notes in pairs and rank the factors and aspects together. After our presentation of findings, participants' ranking can be compared to the findings of this review.

8. **List of references**

    Junco, R., Heiberger, G., & Loken, E. (2011). The effect of Twitter on college student engagement and grades. Journal of Computer Assisted Learning, 27(2), 119-132.

    Kaplan, A. & Haenlein, M. (2010). Users of the world, unite! The challenges and opportunities of Social Media. Business Horizons, 53, 59-68.

    Koehler, M. J., & Mishra, P. (2009). What is technological pedagogical content knowledge? Contemporary Issues in Technology and Teacher Education, 9(1), 60-70.

    Tan, A.-L., Tan, S.-C., & Wettasinghe, M. (2011). Learning to be a science teacher: Reflections and lessons from video-based instruction. Australasian Journal of Educational Technology, 27(3), 446-462.

    Titus, S. (2013).   Mediating Authentic Learning: The Use of Wiki's and Blogs in an Undergraduate Curriculum in South Africa. Paper presented at the International Conference on Educational Technologies (ICEduTech). Kuala Lumpur, Malaysia.

Contribution 3

Title: Social media integration for the purpose of self-regulated learning

General abstract Contribution 3 *(max. 150 words)* including the aims/objectives of the research, the methodology, the results, and the main conclusions

In this study, design based research in a teacher design team is performed. Teachers who intend to use social media to extend their school class teaching, are confronted with a lack of clear guidelines that inform them how to utilize them effectively. In this study, we aim at formulating such guidelines and testing their usefulness. First, opportunities to facilitate self-regulated learning (SRL) in higher education through the use of social media are elaborated in a literature study. Second, these opportunities are translated into teacher education to search for stimulating and limiting factors within the design, resulting in guidelines for effective social media integration.

Detailed abstract Contribution 3

1. **How is this study founded by theory and/or how does it originate from practice?** *(max. 200 words)*

    Education professionals and the scientific community see a large potential in integrating social media in secondary and higher education for competence development and lifelong learning (e.g., Junco, Elavsky, & Heiberger, 2013). Especially in Dutch schools there are many enthusiastic proponents of social media, such as Facebook, What's app, Twitter and YouTube, and students easily accept the integration of social media in educational practice (Van't Klooster & Janssen, 2012).

    Earlier studies indicate that the effects of social media integration strongly depend on the way students use them and that some outcomes can be influenced by the interference of the teacher (e.g., Junco et al., 2013). However, teachers find it difficult to integrate technology for educational use (Matzat & Vrieling, 2015). It is therefore important to analyse which types of social media use combined with teacher activity result in desirable educational outcomes. In former research we found evidence for the claim that, at least in secondary education, there is a kind of "natural alliance" between social media use and practices of SRL (Matzat & Vrieling, 2015). In this contribution the benefits of the use of social media to extend students' collaborative (SRL) learning experiences is elaborated.

2.   What are the central research goal(s), problem(s), and/or questions in this study?
(max. 150 words)

General question: How can teaching and (self-regulated) learning processes benefit from social media integration in higher education?

Sub questions:

1. What guidelines for higher education curricula can be constructed out of suggestions in the literature and findings of earlier research about social media integration for the purpose of (self-regulated) learning?

2. To what extent do teachers in higher education apply the guidelines for social media integration to facilitate students' (self-regulated) learning after they have been made familiar to them?

3.   Which research design did you use in this study and which methods did you use to analyse the data (i.e. subjects, instruments/intervention and procedures)? *(max. 200 words)*

After a literature study (september-december 2015) to deduce guidelines for social media integration in higher education for the benefit of (self-regulated) learning, we examine how teachers can apply these guidelines. The interventions are elaborated within teacher design teams where researchers (N=3), teacher educators (N=4), primary teachers from two schools (N=6) and student teachers (N=9) collaborate. In a pilot that aims for students to perform design based research, 9 face to face meetings are planned between January and June 2016. The integration of social media in this pilot ('Telegram' in this case) intends to guide ('scaffold') the students in between the meetings when they collaborate in student groups in a self-regulating manner. Participants' involvement is qualitatively tracked with reflective notes (Engin, 2013; e.g. How did you use Telegram for feedback the past period and for what reason?) after each meeting. Second, the conversations threads with the tool are generated to elaborate on interactional structures. Finally, retrospective semi-structured interviews (N=4) are conducted using a biographical approach (Bornat, 2008) to activate participants to rethink the social processes from the start towards the present situation. The collected data are analysed, member checked and related by triangulation to enhance the internal validity of the results.

4.   What are the results of this study? *(max. 150 words)*

In this study, guidelines for social media integration in higher education curricula for the purpose of (self-regulated) learning are constructed and tested in a pilot. In the guidelines as derived from the literature study, we distinguish between important conditions (e.g. 'Integrate social media as a mandatory part of the curriculum') and design principles (e.g. 'Model correct use of social media through the four phases of observation, emulation, self control and self regulation'), both separated for the three well-known phases of self-regulation, namely the forethought, the performance, and the reflection phase (Zimmerman, 2000). In the empirical study the guidelines are further concretized to make them practice-ready.

5.   What are the main conclusions of this study? *(max. 100 words)*

Although the participating teachers are willing to integrate social media in their lessons for educational goals (intended curriculum), the findings show that teachers find it difficult to really integrate the technology in their lessons (realized curriculum). Teachers value the design principles as obtained from the literature study, however mostly apply the Telegram tool for organisational matters. Despite the limited use, we see first trends in our data: the tool is applied for students' self-regulation guidance in the area's of competence, autonomy and relations (CAR) that are shown relevant area's to obtain students' intrinsic motivation (Ryan & Deci, 2000).

6. **Who (should) use the results of this study and how do the results contribute to the improvement of educational practice?** *(max. 150 words)*

Teachers' use of social media for the facilitation of self-regulated learning (SRL) is still scarce. Teachers are in need of didactic guidelines for implementation of social media in educational (SRL) settings. Research so far has generated powerful learning designs that provide more insight for teachers during SRL implementation in educational programs (Vrieling, 2012). However, the use of social media as a facilitator for SRL has not often been taken into account in these innovative designs. Therefore, we aim at formulating clear guidelines for teachers' use of social media and integrating them, because of the found 'natural alliance', into the SRL approach of Vrieling (2012). The guidelines are tried out in a higher education course, exploring (some of) their beneficial effects.

7. **How are you planning to make your session interactive?** (max. 100 words)

Some methods to increase the interactivity in your session could be: Ask delegates to predict answer the results to the research questions; before elaborating your central concept, ask delegates for their ideas and/or experience with the concept; 'demonstrate' your research or treatment by distributing the questionnaires you used or by including video clips of the practice in which you set up the study; ask delegates for explanations of your findings: ask delegates to think about implications for practice; invite participants of your study to intervene in the sessions, for example by Skype; give assignments or tasks to delegates, for example let them brainstorm about the topic or research question; organise a small discussion in pairs about your results; use twitter; present statements or polls to the delegates and ask them to vote 'pro or con/yes or no/green or red';...

During several time points in the presentation, participants are asked (1) to write down an example of the way they (plan to) integrate self-regulated learning (SRL) in their lessons in one of the three SRL phases, (2) to write down a manner to adapt the use of social media in their SRL example for scaffolding, and (3) to discuss 1 and 2 with a collegue based on the design principles as derrived (and share with the audience) from the findings.

8. **List of references**

Bornat, J. (2008). Biographical methods. In: Alasuutari, Pertti; Bickman, Leonard and Brannen, Julia eds. The Sage Handbook of Social Research Methods. London, UK: Sage, pp. 344–356.

Engin, M. (2013). Questioning to scaffold: An exploration of questions in pre-service teacher training feedback sessions. European Journal of teacher Education, 36(1), 38-54.

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Matzat, U., & Vrieling, E. (2015). Self-regulated learning and social media – a 'natural' alliance? Evidence on students' self-regulation of learning, social media use and student-teacher relationship. Learning, Media and Technology.

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