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Categorising teachers' use of social media for their professional learning: A self-generating professional learning paradigm.

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Abstract

The proliferation of online resources and an increase in accessibility has led teachers to going online to connect, share ideas and expand their own professional learning opportunities on social media platforms. Over the last five years there has been a resurgence in this field to research what teachers are doing in and with social media. Knowing that teachers are networking or collecting resources misses the fundamental premise for such action, which in turn, does little for understanding social media use as a professional learning activity. This study takes one step back, to investigate the reasoning for particular social media use. Through a qualitative paradigm, expert ICT teachers were interviewed about their conceptualisations of professional learning and related activities online. These recognized ICT-experts from Australia, Europe and United States of America were purposely selected due to a personal and professional impetus to maintain currency with innovative ideas in this ever-changing field. These expert teachers engaged in social media in different ways based on their conceptualisations of professional learning in these online spaces. The findings present a typology of reasoning based along two continuums, Self and Interactivity. These axioms defined four categories of teacher engagement online: Info-consumer; info-networker; self-seeking contributor; and vocationalist. A new paradigm of professional development is presented which has important implications for understanding the role of social media in teacher professional learning as well as in reshaping what we consider as effective professional development.

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Highlights

- **A self-generating professional learning paradigm conceptualised**
- **Four categories of teachers' social media use identified**
- **Current conceptions of professional development and professional learning**

Abstract

The proliferation of online resources and an increase in accessibility has led teachers to going online to connect, share ideas and expand their own professional learning opportunities on social media platforms. Over the last five years there has been a resurgence in this field to research what teachers are doing in and with social media. Knowing that teachers are networking or collecting resources misses the fundamental premise for such action, which in turn, does little for understanding social media use as a professional learning activity. This study takes one step back, to investigate the reasoning for particular social media use. Through a qualitative paradigm, expert ICT teachers were interviewed about their conceptualisations of professional learning and related activities online. These recognized ICT-experts from Australia, Europe and United States of America were purposely selected due to a personal and professional impetus to maintain currency with innovative ideas in this ever-changing field. These expert teachers engaged in social media in different ways based on their conceptualisations of professional learning in these online spaces. The findings present a typology of reasoning based along two continuums, Self and Interactivity. These axioms defined four categories of teacher engagement online: Info-consumer; info-networker; self-seeking contributor; and vocationalist. A new paradigm of professional development is presented which has important implications for understanding the role of social media in teacher professional learning as well as in reshaping what we consider as effective professional development.

Key words

Teacher professional development, social media, Twitter, ICT teacher, professional learning

Introduction

The professional learning landscape of educators has shifted greatly, with web-based technologies enabling the opportunities for any-time, self-generating and on-demand learning (Simonson, Schlosser, and Orellana, 2011). With the ease of use of web tools, the explosion of Apps, and the growth of social media, there has been a move by teachers to self-initiate their professional learning opportunities online (Author 2015; Vu, Cao, Vu, & Cepero, 2014). Teachers are turning to social media for a range of education-focused resources and networks to collaborate and curate, when and with whom they want (Trust,

Carpenter, & Krupka, 2016). Issues associated with isolation and cost, which have previously precluded teacher engagement (Cameron, Mulholland & Branson, 2013), are easily overcome within these virtual spaces. Social networking sites such as Facebook, Instagram, Pinterest, TeachersPayTeachers, Twitter, Google Plus provide environments to profile oneself and one's professional life, to express ideas, to share resources and to connect with colleagues unconstrained by time or place. As a result, notions of professional development are changing, not only for teachers but also for many skilled workers and professionals (McGowan, Wasko, Vartabedian, Miller, Freiherr & Abdolrasulnia, 2012; Tower, Latimer & Hewitt, 2014). The complacency that accompanies a one-size fits all approach dictated by the employer or in a teacher's case, a school or district, is no longer applicable. Most professionals now have the opportunity to engage with more interest-based, self-directed learning opportunities that are available through their hand-held devices (Author, 2016; Baran, 2014; Schmitt, Sims-Giddens, & Booth, 2012).

This shift in conceptualising teacher professional development as boundless and self-generating on-demand learning reframes the approach of professional development from content delivery to content generation, such that teachers are generating the content through collaboration and independent inquiry. Shifts such as these have been called for by Munzo's (2006) and Watson (2001) in attitudinal knowledge as the teacher becomes the protagonist of their own training working with others on elaborate projects. Collaborative learning processes orientate a new professional development paradigm that emphasizes an internalized goal-centric model of learning identified by terms such 'ownership', 'conversation', 'deep understanding' and goal-directed activity that contrasts with traditional models that represent 'compliance', 'transmission' 'rules and routines' and 'content coverage' (Raphael, Vasquez, Fortune, Gavelek & Au, 147 2014). The new 'self-generating' paradigm is a more fluid and responsive form of professional learning that has been evidenced in online spaces, such as Twitter and Facebook rather than more traditionally organised Massive Online Open courses, webinars or formalized online programs or events.

Over the last five years, there has been a resurgence in research in this field of online professional learning. There has been research on the more formalized professional activities that form part of online communities (see Author 2016, Hutchison, & Colwell, 2012); on the dynamics of online communities themselves (see Baran, & Cagiltay, 2010), Hanraets, Hulsebosch & de Laat, 2011; Macia, & García, 2016); and on investigations into the role of tools such as Twitter, Facebook and Blogs as part of learning communities (see Goodyear, Casey, & Kirk, 2014; Huei-Tse Hou, Kuo-En Chang & Yao-Ting Sung, 2009; Ranieri, Manca, & Fini, 2012). These studies offer understandings of teachers' approaches and practices within communities or bounded spaces. Additionally, and more specifically, there has been studies that have investigated the potentially more chaotic notions of self-generated learning through large surveys (see Carpenter, & Krutka, 2015; Trust, Carpenter, & Krupka, 2016) to identify *what* teachers are doing online. These studies will be reviewed in the forthcoming literatures as informing this new paradigm for professional learning.

The current study takes a different approach, one that helps makes sense of *why* teachers are going online to learn, to understand what they are seeking, and to explicate the commonly known activities of 'sharing' or 'networking' on an individual basis. This research

investigates, from the teacher's perspective, how expert ICT teachers conceive of their professional learning, to identify what underpins or provides reason for the ways they learn online. Presently, there is no empirical research that explicates why and how teachers are using social media in their professional learning. This study therefore provides fundamental understandings of self-generating online professional learning through in-depth qualitative methodology to answer this central question: *How does an ICT expert teacher conceive of their online professional learning through social media?* A review of current notions of professional development and teacher social media use will now be undertaken.

Literature review

Literature on teacher professional development propound training models of school-based in-service sessions designed to improve skills and master new strategies without addressing the site-specific social or cultural context and are more commonly provided by outside experts (Lieberman & Miller, 2014; Sachs, 2011) positioning teachers as recipients of required knowledge (Little, 1993, 1999). Professional learning, on the other hand, is more self-directed based on an individual's professional needs or interests. It has been explained as informal learning as part of the serendipitous or natural study work that teachers undertake daily in their classrooms (Ambler, 2016; Day & Sachs, 2004). This distinction in professional development and professional learning is not as clear-cut in educational theory, policy and curriculum documentation, as the terms are used interchangeably, and in many ways teachers move seamlessly between formal and informal learning that takes place in varying contexts, face to face and online. To add to the misperception, professional learning can be an outcome of professional development, as a common feature (see Gaumer Erickson, Noonan, Brussow & Supon Carter, 2016; Opfer & Pedder, 2011; and Wells, 2014). More so, the distinction has been theorised since Shulman (1998) shifted professional learning to extrapolate Dewey's laboratory model, to foster the combining of theory and practice through moral vision, the centrality of judgement, learning from experience and with professional communities. This review of the literature focuses on online professional learning, considered here as *informal* professional development, which affords teachers the autonomy to self-select the activities which best improves their knowledge, practice, and sense of purpose. The professional learning activities reviewed are not mandated or required by regulatory bodies, are usually done in the teacher's own time but are accessible 24/7, and are considered professionally rewarding. The following review will focus on what is currently known about *informal* professional development of this kind, termed in this paper as self-generating professional learning.

Teacher professional networks -PLNs

Teachers are increasingly using online Apps and educational resources to cultivate and extend their professional growth opportunities (Brown, Vissa, & Mossgrave, 2012; Hanraets, Hulsebosch, & de Laat, 2011). Many researchers have explored teachers' activities in social networking spaces (Carpenter & Krutka, 2015; Davis, 2015; Forte, Humphreys & Park 2012; Hutchison & Colwell, 2017; Kim, Miller, Herbert, Pedersen & Loving, 2012; Ranieri, Manca & Fini, 2012; Veletsianos, 2011; Visser, Evering & Barrett, 2014; Wesely, 2013). One of the main functions that these environments serve is the opportunity for teachers to connect with like-minded peers, that is, colleagues who have the same interests, subject domain and/ or philosophy to education. These expansive social networks called personal learning

networks (PLN) are described by Trust (2012) as a “system of interpersonal connections and resources” that can be used for informal learning, collaboration, and exchanging knowledge and ideas (p. 133). A PLN is not precluded by environments/spaces. Teachers’ connection occur face to face at school, local settings, in hallways and at conferences. Online, PLNs are created predominantly within education-focused blogs, wikis, and podcasts, as well as through social media sites like Edmodo, Facebook, and Twitter. A PLN can be built using one social media site predominantly, such as Facebook, where a teacher is in one or more ‘Groups’ that suit their needs and interests, as well as following a number of Hashtags on Twitter. A teacher’s PLN can utilise multiple sites, functions, and Apps that are sourced at particular times for particular requirements. The notion presented by Darling-Hammond & McLaughlin, (1995) that PLNs utilize a professional learning community structure, emphasizing support, assessment, observation, and reflection rather than abstract discussions, maybe a thing of the past.

For many teachers, the use of social media for self-generating professional learning through their online PLNs becomes embedded in their daily routine, which improved their teaching practice and their own understanding of the relevant content or pedagogy (Baran & Correia, 2014; Huei-Tse Hou, Kuo-En Chang & Yao-Ting Sung 2009; Kelly & Antonio, 2016; Khan, 2014; Macia & García, 2016; Twinning, Raffaghelli, Albion & Knezek, 2013; Tour, 2017; Trust, 2016; Trust, Krutka & Carpenter, 2016; Zhang, Liu, Chen, Wang, & Huang 2017). In her study of teachers’ use of PLNs, Tour (2017) identified that professional learning was socially constructed, personalised, and active, with a reciprocal relationship of helping one another that occurred at any time, during and after the school day. The following review of online PLN activity will explore these ideas further to identify why teachers are using social media professionally. Their reasonings will be referred to respectively as knowledge construction; knowledge sharing; culture of collaboration; flexibility & accessibility; and building a community of professionals.

Knowledge construction

Active learning processes such as asking questions, giving opinions, exchanging ideas, sharing resources and reflecting, were evidenced in teachers’ use of Twitter (Visser, Evering & Barrett, 2014). This knowledge actioning is more responsive to conversational processes in a social media environment like Twitter compared to knowledge construction in Blogs. Blogs have been found to help teachers build their instructional knowledge base and create personalized teaching e-portfolios. Huei-Tse Hou, Kuo-En Chang & Yao-Ting Sung (2009) reported that teachers’ tacit professional knowledge could be externalized when a teacher writes and compiles knowledge content on his/her personalized blog and gradually accumulates instructional knowledge. This also facilitated the knowledge construction among the members of the teacher community. Furthermore, Carpenter & Krutka (2015) identified that teachers reported that blogging provided them with a new medium to explore scholarly ideas and enabled them to re-envision their identity as public intellectuals.

Knowledge sharing

Baran & Correia (2014) and Ranieri, Manca & Fini (2012) pointed out that teachers use blog and social networking sites like Facebook because they want to share their knowledge, connect with other like-minded colleagues, and reach multiple audiences. The work of Forte, Humphreys & Park (2012) also supports such findings as they report that blogging was also

used for multiple audiences, including co-located and distributed co-workers and colleagues. The teachers in Carpenter & Krutka's study (2015) maintained that blogs have the advantage of providing a virtual, personal space and of forming online communities. Moreover, blogs also have discussion/interaction functions that helped community members with similar interests to gather and promote knowledge-sharing (Macia & García, 2016). Eighty percent of respondents in Forte, Humphreys & Park's study (2012) explained ways in which Twitter allowed them to provide what they perceived as meaningful support to colleagues and/or contributions to their profession. Providing assistance, feedback, and input to others was another characteristic of professional participation on Twitter. Visser, Evering & Barrett's (2014) findings also indicated that a number of educators network in order to enhance their teaching by seeking input, sharing their work, engaging in conversation with others, and sharing student work. Twinning et al., (2013) reported that through these actions participants seek enhanced learning opportunities for their students, and are willing to share teaching practices and artefacts outside of the classroom, presumably because there are benefits that maybe derived from their students having an expanded audience.

Culture of collaboration

Equally important findings on the professional learning of teachers is the opportunity for welcoming and fostering of collaboration and participation, and that meaningful interpersonal relationships arise because of the friendly, participatory culture of the community (Tour, 2017). The ability to participate in and contribute to the collective intelligence of the education-based Twitter community seems to yield professional as well as personal benefits (Veletsianos, 2011). Of equal significance is the manner in which these are acquired—through meaningful, interpersonal relationships within a participatory culture. The latter was so described because it contained many of the same attributes that Kim et al., (2012) and Zhang et al, (2017) labelled as constituting a participatory culture. This type of culture was described as informal memberships within an online community in which individuals can contribute and produce information, express themselves, learn from and collaborate with others, engage in civic endeavours, and meaningfully share or contribute their creations and knowledge (Chuang, 2016). As argued by Tour (2017) professional learning communities can add to a teacher's perception of self-efficacy through the collaborative structure that is a part of a PLN. This is supported by the four sources of efficacy mentioned by Bandura (1997) which conceptually supports the proposition that PLNs serve as a space for development of teacher self-efficacy. Teachers' collaboration online provides opportunities for them to learn of new innovative teaching strategies, then to employ these successfully in their classroom practices which may lead them to have confidence in their competencies (mastery experience). Teachers can seek on-going support during trial periods through their online network. The positive and constructive feedback they receive from peers impacts on their sense of efficacy (verbal persuasion).

Professional learning opportunities also prepared the conditions for an increase in collective efficacy by encouraging teachers to collaborate as reflective practitioners and problem-solvers (Macia & García, 2016). Teachers in Wesely's (2013) and Zhang et al's, (2017) studies contended that outside experts brought fresh perspectives, ideas about what has proven successful elsewhere, and an analytic stance toward the school improvement process. That led to establishing more trusting relationships between practitioner as they work together

on problems of practice by bringing different kinds of expertise to the table. The ability to affect both sensibilities is what perhaps makes Twitter so appealing to those who use it.

Flexibility & accessibility

Anytime/anywhere learning has been afforded as a key reason to use social media. Seventeen percent of the respondents in Visser, Evering & Barrett's study (2014) indicated that they used Twitter in part because of affordances that make it efficient, accessible and/or user-friendly. Given the demands on teacher's time, Twitter's short format and continuous stream of activity seemed important to many respondents. Twitter, Facebook and Wikis were also praised for providing constant learning opportunities that educators can take advantage of quickly and on the go (Carpenter & Krutka, 2015; Davis, 2015; Forte, Humphreys & Park 2012; Hutchison & Colwell, 2017; Kim, et al., 2012; Ranieri, Manca & Fini, 2012; Veletsianos, 2011; Visser, Evering & Barrett, 2014; Wesely, 2013).

Chuang (2016), Trust, Krutka & Carpenter (2016) and Zhang, Liu & Wang (2017) advocate the use of social media as part of professional development paradigms to counter the physical isolation typical of a classroom. Additionally, Khan (2014) pointed out that teachers acknowledged how Twitter enabled them to engage with others in terms of their educational philosophy, content areas and professional roles. For example, teachers of elective subjects such as the Classics, World Languages and Psychology made comments regarding how Twitter connected them to content-area colleagues who simply did not exist on their campuses.

Build a community of professionals

Teachers are electing to join established online 'closed' communities in a field of interest. Educational organisations want an online presence for their members, providing a shared domain and rich resources. Building and/or seeking an online community is motivating teachers to use social media. In Wesely's study (2013) a professional learning community of Language Teachers promoted activities for members to share new ideas and practices across classrooms, it being the choice or disposition of the teachers to actually participate and/or leave the community. Kelly and Antonio (2016) monitored a Facebook community over two years identifying six different types of support afforded. Similarly, Hutchison & Colwell's study (2017) identified a number of ways in which a wiki community of teachers, as part of an induction program, were facilitated to engage. A community is only a representation of the interactions that occur within it with members of a community propagating an activity to keep it active through discussion forums, resource building and asynchronous and synchronous events (Wegner, 1998). In the context explored here, from the perspective of the teacher, joining a community online is voluntary and participation occurs at their point of engagement, with no regulation or concern for (dis)engagement.

In summary, teachers are generally using social media to gain knowledge, share ideas and resources, join communities to collaborate and network, anytime and anywhere. Emerging are two main purposes- a people orientation or a content orientation that emanates from online professional learning activity (See Figure 1). Figure 1 represents a conceptual framework for understanding professional learning drawn from the literature reviewed. From a people orientation, teachers are sharing, collaborating, supporting, providing ideas but also just lurking, seeking the who's who in that content domain. Whereas, from a

content orientation, teachers are collecting, sharing, gathering and constructing resources but also just taking, not always wanting to contribute. Interestingly, the arrows between people and content and content and people are dashed because for example, teachers who orientate towards people do not always engaged in activities to gain/create content and visa versa, teachers interested in content don't have to engage with the authors/people. In response to this, what we don't understand is why they are engaging in some of these ways and not in other ways, what underpins their reasoning, and how they conceptualise their professional learning which drives that particular type of engagement. Teachers' conceptualisations of professional learning through social media will now be examined to understanding the reasons for actions in online professional learning networks using this conceptual framework.

[Figure 1 near here]

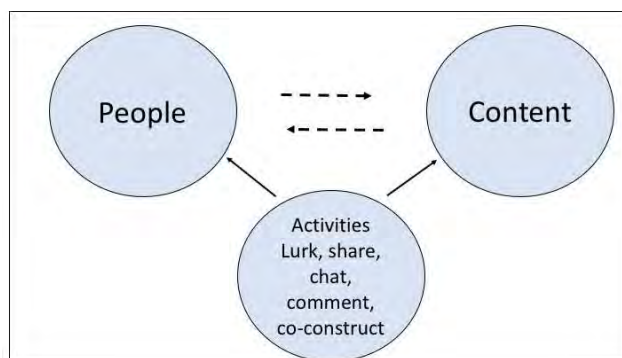


Figure 1: A model of Professional Learning in social media

Research method

The research project was titled "Professional Learning in an Online World." The project was generated by conversations with expert ICT teachers who indicated that they maintain their innovative approaches to teaching and learning with ICT by seeking professional development opportunities outside of school-based opportunities. As evidenced in the research literature, there is a gap in the understandings of why teachers use social media to learn, and how they conceptualise such professional learning. This research aimed to move beyond the 'knowings' of generalised 'sharing' and 'networking' to understanding what is driving online engagement for different teachers.

This qualitative study, with semi-structured interviews as the data collection tool, involved fifteen ICT-expert teachers from three different countries: Queensland-Australia, Belgium-Europe and Indiana-United States of America. The diversity of locality was chosen to mirror the notion of working online, and the space/place flexibility where colleagues around the world collaborate. Each researcher specialised in an area bounded within ICT Education and investigated through that lens. The teachers were targeted as participants (Intensity Sampling- Teddlie and Yu 2007). Each researcher chose five participants based on the criteria that they were (1) perceived by their local educational communities as an 'ICT-expert'; (2) that they provided professional development to their colleagues at school, district or state level; and/or (3) that they had won an award for their ICT-expertise. Table 1 provides a list of the teachers (pseudonyms) with their relative expertise.

[Table 1 near here]

Table 1 ICT expert teacher participant details

| Australia | | Belgium | | USA | |
|-----------|---|----------|----------------------------------|---------|---|
| Donna | Leader of E-Learning and Library Services | Brad | PD ICT facilitator, Researcher | Barbara | Ambassador for Tech companies, PD facilitator |
| James | Online Specialist and peer coach | Brian | Pedagogical ICT facilitator | Carol | PD provider |
| Kate | Specialist ICT Teacher/ Curriculum integrator | Pia | ICT facilitator | Louise | PD mentor |
| Kristy | Head of Contemporary Learning | Tasha | Experienced Teacher- PD provider | Shaun | Digital Innovator |
| June | Maker Space Literacy Specialist | Terrance | Teacher trainer | Tracey | PD at school and district level |

The interviews included eight semi-structured questions that focused on the development of background (to identify expertise and build rapport); understandings of professional development and professional learning generally as well as specifically associated with social media; issues around limitation associated with cultural and political context. These were followed by a behavioural event sequence that guided each teacher in explicating their learning online to its application in the classroom. The three researchers from different locations were unable to co-interview. Therefore, there was a standardisation of questioning and a schedule co-developed prior to the interviews with the acknowledgment that context and ebb and flow may alter phasing and sequencing of the questions. This ensured some flexibility associated with context to ensure that personalised views of networked online learning could be captured. Oppenheim (1992) and Patton (1980) both supported this approach to interviewing as the purpose was to enable the participant to talk candidly and with emotion (and passion), especially in the context of experiences that do not comply with policies, culture, and standardised professional development activities. Interviews were held during the academic year between June 2016 - June 2017. Each teacher received the interview schedules prior to the interview to familiarise themselves with the questions. All interviews were transcribed and adhered to ethical requirements (GU Ref No: 2016/656).

Interview data was analysed through an inductive thematic process of examining, comparing, conceptualising and categorising the data (Strauss and Cobin, 1990). Inductive codes were assigned to initial larger segments of data that described a new theme. Two coders individually coded one interview from the same respondent. Subsequently, the coded units were compared in order to discuss disagreements, refine categories and develop a shared coding scheme. During the data analysis of the other respondents, the coding was discussed among the researchers to safeguard the quality of the interpretative data. All disagreements and interpretations were resolved through discussion. Finally, patterns and differences across the respondents were identified through constant comparisons. For this

paper, themes associated with how teachers conceptualised their professional learning were drawn upon to make sense of the different reasons and associated professional learning practices that were taking place through the use of social media. These were categorised into a working typology that represented categories of teachers' reasons and actions in social media whilst also highlighting the important boundaries between the categories. The following section will present the typology with related themes that emerged from the interviews. For further results bounded within this research see Authors (in press).

Results

Participant overview

All fifteen teachers stated that they used social media as their primary form of professional learning. Twitter was the 'go to' platform because on *"Twitter you need to be able to expand your network and find the right people. On Facebook you always rely on the friend request and an acceptance request"*. Although Twitter was the most commonly mentioned tool, they also turned to Facebook, YouTube, Pinterest and blogs. They often engaged in real-time chats on Twitter associated with professional communities (e.g. #edchat) and followed experts for their new and innovative ideas. They spent from 4 hours to 20 hours a week doing this in their own time. In beginning to understand professional learning through social media, Twitter as an entity was symbolic of learning with responses such as *"My Twitter is my personal learning network"*; *"Twitter is probably my biggest area of professional learning"*. The ability to *"broaden my social network"* with *"I can take it out whenever I get five minutes, instead of having anything formal"* repositions what is important in professional development, that being, content generated by their chosen experts/colleagues and informal needs-based learning opportunities. In conceptualising these teachers' use of social media, we need to look firstly at how they understand professional development and professional learning.

The difference between Professional development and professional learning

Professional development was described by the ICT expert teachers in line with what the literature suggests as the more formal top-down, school agenda-based, one-shot workshops that represent a 'one size fits all' approach. Carol gave an example of professional development as attending a workshop for educational Google Suite with school colleagues. Alternatively, when it came to explain professional learning and/or the difference between professional development and professional learning, more complex, divergent responses occurred. Many of the expert teachers defined professional learning as using Twitter with terms such as *"self-directed"*, with a lot of emphasis on *"personalised"* (finding people who have exactly the same interest); *"something you engage with"* (more process-oriented) and *"informal"* or *"casual"*. The distinction between professional development and professional learning are respectively formal versus informal, agenda-based versus self-directed, and content-driven versus process-oriented which is also reflected in the literature. The following excerpts from June and Brian are typical of this clear delineation:

June: We have PD at school where they bring in what they think we need and often what they think we need is not necessarily what I do in my particular field. Whereas, to me the learning is what I enjoy is when I go out and look for it and find things that I find really interesting. I think of PD from school, at work. I always think of us all being together, often

being lectured to; whereas, mine, I feel that I am selective in what I want to do and if I'm not enjoying it, I can stop.

Brian: There's so much learning opportunities and so much ways that you could learn yourself. Why would I go to a place where I have to in the room with 15 other people who might have a very different level in ICT than I ... I'm bored quickly. It's different for me, learning is something I do by myself and on my time.

Expert teachers also tried to explain how professional development and professional learning were inter-related: *Brad: "I think all development involves learning. But not all learning leads per se to development in a professional context. I think learning for me is more the driving force behind the development. And that development leads more to implementation in the work floor"*. Brad explained this through an example where he was introduced on Twitter to Slack, a team collaboration App, but did not use it in his work environment. He mentioned he was confused by the terms, saying they were a 'synonym' and *"not different per se?"* This suggests that learning is part of professional development but professional learning needs to be actioned in the classroom for development to occur. Barbara, in a similar vein mentioned that professional development was more *"lasting"* while professional learning was more casual. Here she describes professional learning: *"Gosh, a good chunk of my time. I'm always reading something new or researching something new. Maybe not diving into it completely."*

This diving in and out, getting ideas was evident in other experts' explanations of professional learning. It seems that professional learning was considered by these teachers as valuable, more enjoyable and more in their control than professional development. In terms of interrelatedness, professional learning not only encompassed more self-directed activities online through social media but also at conferences or teacher meet-ups, which mostly stimulated thinking but could be interpreted as superficial engagement until something sparked further actionable engagement in the classroom. This then could be considered professional development. As independent terms, these expert teachers replicated notions of existing rhetorical definitions with the addition that the majority of what they considered professional learning occurred online through social media.

Curiosity, Competitiveness, Compliancy for professional learning with social media

Three themes emerged from teachers' interviews associated with professional learning, each of which contribute to our growing conceptualisations of professional learning through social media.

Curiosity

Curiosity was considered a necessary disposition for teachers to have if they were learning through social media. To start exploring social media, to maintain inquiry of new ICT tools or new ideas, to follow up, revisit and keep abreast of expert's ideas, a teacher needed to be curious of innovations beyond the school grounds. Brad provides the following example of his exploration of Educaplay and the need for a curious nature when using Twitter.

Brad: I remember very clearly through following Shaun Wheeler on Twitter which is a professor in University of Brighton. Twitter suggests a number of other accounts based on your interests and based on your profile, so through his profile I suddenly saw Educaplay which is an online platform for creating exercises, a kind of hot potato but in the cloud. And I said, 'oh wow that's interesting.' So I stopped and then I had the curiosity of simply doing and exploring that tool. I made an account. I said, 'okay these are interesting tools, these are interesting exercises, we can do something with it in the teachers training programme.' And I retweeted that and I made an immediately made an Educaplay account as well. I gave it to teachers in workshops, like Gary from Arts. they picked that up also. There is now an entire syllabus on Educaplay which John wrote, I'm using that. But again, a genuine curiosity from my point of view was needed and I gave other examples of that as well. By engaging in a kind of continuing mindset on Twitter, but now also on Facebook... it was not that there was a problem ...

What was driving Brad to learn was a “genuine curiosity” with a “continuing mindset” to move from the idea of a new educational tool on Twitter, to deeper knowledge of the tool to sharing of the tool and curriculum engagement. He states that it was ‘not a problem’ that motivated him to explore on Twitter, but rather it was a genuine curiosity. Professional learning is considered more than finding a new idea or tool, as there is deeper engagement and application involved in the continuing learning process. Curiosity combined with “some tenacity” was mentioned by expert teachers as a requirement to using Twitter due to its “rapid nature, with all those tweets and it's so fast, so volatile”. Facebook groups was suggested as a first step into learning with social media as these experts found that their teachers were more familiar with Facebook and “it's kind of the fluid nature”. James supports his teachers to use Twitter by ‘feeding little bits of information slowly so that it's not overwhelming, and now quite a lot of them are on Twitter and they're active in Twitter chats’. For Shaun, when he finds a new ICT tool on Twitter he experiments with it and then “I get really curious, and I'd have questions and I'd say, I really like using technology, but this is a problem. I can't do ... This doesn't work. So then I would research and find out ways to go around that. I would ask questions”. Curiosity was considered by these expert teachers as a characteristic needed to learn, to persist and to move from finding new ideas/ICT tools to using these in the classroom.

Competitiveness

Underpinning teachers’ engagement in social media are concerns with different perspectives on professional competitiveness that manifest in how teachers understand and action learning activities. Ownership of knowledge, for example, manifests in Pinterest or TeachersPayTeachers site, where the number of likes or downloads indicates the valuing of the knowledge resource and therefore teacher quality. Kate, in recognising this competitiveness in Twitter decided not to engage to boost or build a following. Underpinnings of competitiveness drove her to use Twitter to find people to follow whom she’d met at conferences or educational meetings. She explains this:

Kate: I don't do Twitter to run a fan club. I didn't go into Twitter ... Because it's like Facebook. Who's got the most followers and all that kind of stuff. I don't do Twitter for that, and I had to deliberately make that decision quite early. It wasn't about how many people you're

following or how many people were following you, because you can't possibly have a personal relationship with those ones.

For Kate building a more personal relationship is important. She used Twitter to follow people she had met at conferences or at teacher meet-ups. She believes that *"When you meet the people who are on Twitter face to face, the bond gets greater"*. For Kate and other teacher experts, an unambitious but also deeper knowledge of the colleague is required for sharing and networking in these platforms.

In understanding competitiveness as a construct that underpins professional learning through social media, expert teachers expressed competitive perspectives as *"protectionism"*, *"niche"* and *"exhausting"*. Brad firstly explains protectionism: *"People identify with the learning materials they develop, and therefore they do not want to share it, because they say, 'oh but I put three hours of work into this lesson plan. Teachers are protecting what they own and value. A "niche" was explained by Tracey as "It seems like everybody's constantly trying to find that niche, that new thing, that's so last year, kind of thought"*. For Tracey competition was evident with the need to make oneself unique through novel ideas. Tracey adds that competition is *"exhausting, because if you want to become someone that a lot of people recognize in that field, I mean, that's a tremendous amount of work and that's a tremendous sacrifice of your time to do that"*. Competitiveness evidently underpins professional learning through social media which weighs heavily on what teachers post, who they follow and how often and how long they spend in these spaces.

Compliance

Evident in all three countries (Australia, Belgium and USA) was educational policy that positioned traditional modes of professional development as being more valuable through compliance requirements from governing accreditation authorities. The expert teachers said that this did not reduce their engagement in social media but it did make them acknowledge the different mode of learning online. This is illustrated through Donna's account of compliance requirements. Although Donna spends around 20 hours a week on professional learning activities, she said *"It won't be able to count for my accredited hours, so I'll have to do so many accredited hours each year to maintain my teacher registration"*. To fulfil her required hours of professional development she has to attend some out-of-school workshops which have greater cost and classroom teaching implications. Donna states that *"If I'm out for a day, that's costing \$400. Then there's the two or three teachers that need to take my three classes. There's a significant amount of work that you have to prepare for classes. It's a lot of work to get yourself to a conference during school hours"*. Although she was aware of the complexity to attend out-of-school professional development activities, she accepts that it's *"what I can count in compliance to keep the boxes more or less"*.

The ramifications of compliance measures for the one-shot workshop or school based professional development positions professional learning as elective and self-desirable. Barbara acknowledges that in her district in the USA she believes there is no policy associated with professional learning through social media, only that associated with traditional professional development. She states that: *"I'm not sure how much it's valued in my district right now when teachers do those things. I'm not sure how much it's looked at as*

something that's really awesome in comparison. So I don't think there's really any policy that drives it....". Even though learning through social media is really "awesome in comparison" these compliancy measures predispose teachers generally to accept traditional modes of professional development as necessary and valuable. Terrance explains that this occurs in his school:

Terrance: A great number of my colleagues see their professional development or learning as we have two days a year that are obligatory and we have to go and take a course and that's it. If I go to that course none of the things I've learned, if I've learned anything at all, stays with me. There is no sharing of this knowledge.

Compliancy that values traditional modes of professional development limits professional learning through social media because of the 'tick the box' requirements, but more importantly, it positions professional development as being 'done' to teachers who act as receivers of out-side experts' knowledge. A key facet raised by Terrance is the significance of sharing knowledge that is a vital component of learning online but not necessary part of traditional professional development.

A conceptual model of self-generating professional learning

Drawing on the findings examined here on the difference between professional development and professional learning and the relevant literature reviewed and conceptualised previously in Figure 1, a working model on what can be conceived as a self-generating professional learning paradigm is presented (see Figure 2).

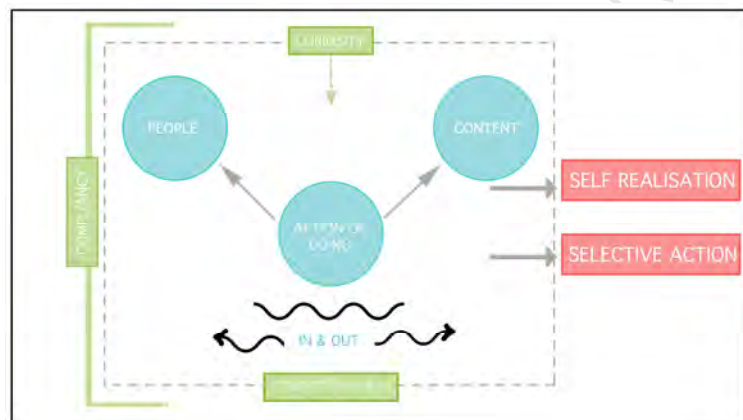


Figure 2: Self-generating professional learning model

The boundless space for learning through social media is represented by dotted lines. Within this space the central process of 'doing' orientates learning as active and generating from teacher engagement (Little, 1993, 1999; McLaughlin, 1994). A people orientation or a content orientation exists through the action of doing (Trust, Carpenter & Krupta, 2016). The three perspectives associated with professional learning, that is, curiosity, competitiveness, and compliancy frame and impact learning in different ways. Curiosity is a disposition considered necessary to learn, to persist and to move from finding new ideas/ICT tools to using these in the classroom. Curiosity, therefore, sits at the top of the model with an arrow pushing down to represent this dispositional requirement. Competitiveness is recognised as

prevalent in social media and as such underpins the 'doing' activities. Compliancy bounds professional learning by lack of acknowledgement and preference for formal professional development activities. The flow through movement represents fluid motions of diving in and out and the chaotic nature of activity within social media. The outcome of self-generating professional learning is captured within the learning process itself, as a self-realisation of professional learning needs and professional capabilities. Teachers become aware of their interests and needs as they move in and out of groups, chats, networks etc. Teachers also become aware of their professional capabilities by the number of followers, likes, retweets and downloads. Self-realisation is a fundamental process and outcome of self-generating professional learning. Self-realisation as part of professional learning is founded in action-research inquiry-based professional development (Author, 2015; McTaggart, 1997). Equally important is the other outcome of professional learning which denotes selective action in educational contexts. Not all new ideas/ICT tools found through social media are appropriated for classroom implementation. These are purposely selected by the teacher based on curriculum requirements.

Categorisations of teachers' self-generating professional learning through social media

The self-generating professional learning model provides a representation of learning through social media. How teachers individually conceive of their learning enacts this model in different ways. Four categorisations of enactment were found, based along two continuums, Self and Interactivity (Figure 3). These axioms defined the four categories as Info-consumer; info-networker; self-seeking contributor; and vocationalist. The expert teachers engaged in social media in different ways based on reasoning which represented their conceptualisations of professional learning in these online spaces.



Figure 3- Teacher enactment of self-generating professional learning

The following section will describe the cumulative features of each teacher category in terms of teacher reasoning that directs action for learning through social media.

Category 1: Info-consumer

Info-consumers seek to find and take away new knowledge or ideas and resources from social mediated spaces. Their social reasoning is to fulfil self-driven needs and their interactivity reasoning is to consume content. They could be considered passive participants who scan Twitter for ideas and/or resources that meet their curriculum needs. There is little to no contribution of substantive knowledge or resources to their professional learning networks. They follow like-minded colleagues to consume their content. The following exemplar from one ICT expert provides evidence of this self-seeking consumerist behavior:

Twitter is my best friend, and my PLN. I'm on Twitter a decent amount. Things pop up a lot, and I'll investigate. If I see things popping up a lot and I don't know what it is, I'll investigate. I don't do Twitter chats nearly as much as I should. It's just the timing is always so hard with having two small kids. In the beginning when I was just so hungry to learn, I would type in #edtech or things like that. And I would look under the top 100 apps in the classroom, and I would look and read through the apps and click on all of them and download them and try them. Now it's not so much that, because I feel like I know a lot and I don't need to necessarily find the next app. I'll skim through and if I see, like I said, something repeated, I'll wonder what that is and I'll investigate it. Then okay, time for bed, and I didn't grade anything. What did I do exactly? Well, I read a lot of emails because I'm curious about one thing and I want to ask a question about this, or I want to try something out a little bit. I just love it because it's in my pocket, you know? Whenever I want to look at it, I can look at it. I have access to a lot of people who know a lot. They're all over the world, and they're right in my pocket, and I can take it out whenever I get five minutes, instead of having anything formal. It opens my eyes to what's out there.

An info-consumer considers the tool (Twitter) “their” best friend, a self-consumed acknowledgment. They purposefully seek new knowledge “100 apps in the classroom” (content orientation) as a process to build expertise. This indicates a level of competition underpinning the need to attain the latest ICT innovations. When they have reached the point of “knowing a lot” competition levels seem to reduce, and they only investigate further if the idea or tool is considered valuable by their peers. There is a curiosity associated with engagement in their social network by “wondering” or “investigation” as doing processes. There is also an acknowledgment of learning through social media being governed by compliancy with references to “I can take it out whenever” and “instead of having anything formal”. They go online to find specific resources for their curriculum activities and passively follow people that interest them. The following representation (Figure 4) provides an Info-consumerist professional learning model:

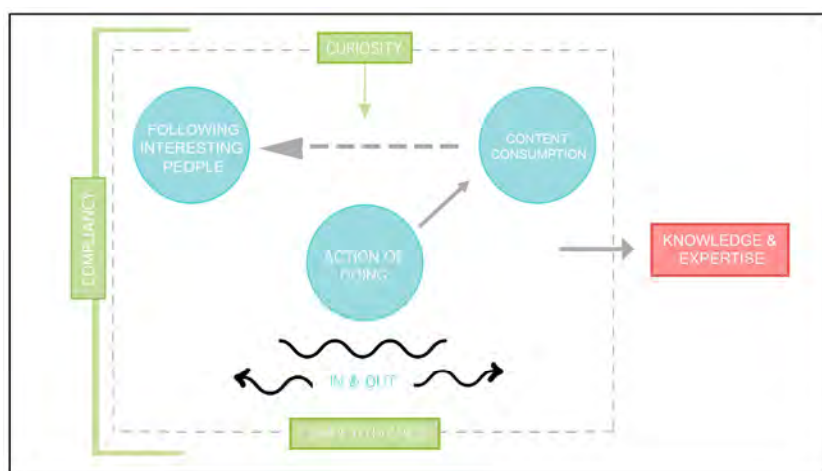


Figure 4: Info-consumer professional learning model

For an Info-consumerist passive action is evidenced in seeking self-directed behaviours of consuming content (rather than generating content) and following interesting people only for their resources/ideas (rather than actively networking). Curiosity, competitiveness and compliancy exist in determining forms and there is a lack of self-realisation. There is evidence of transferring what is gained online to curriculum appropriation; however, this is not the main focus. Rather these teachers' reasoning for professional learning through social media is to build knowledge and expertise by consuming content and by passively following people.

Category 2: Info-networker

The major difference between Info-consumer and Info-networker is that the latter seeks to find and take away new ideas and resources from social mediated spaces for the purpose of sharing with other colleagues. The info-networker's social reasoning is focused on others' needs but their interactivity reasoning remains as a content orientation. They actively network to find interesting and valuable people to follow. Their network of like-minded colleagues is complex and they know the 'who's who' of topical fields. However, there is still little to no contribution of substantive knowledge or resources to their professional learning networks. They tend to consume their content and take this or 'retweet' to share with others. The following exemplar from one ICT expert provides evidence of this Info-networking behavior:

I learned everything about Google Classroom through Twitter. There's a woman in the United States, Alice Keeler. She's a bit like the goddess of Google Classroom, and that's how I keep up. I follow her on Twitter. I read her things. I watch her videos. I test them out in my classrooms, and then I share them with other teachers, on Facebook, on Twitter. I read blogs from other teachers, for example, because in this case, things change a lot. They do many updates, so you always have to keep ahead. The things that I knew last year are not relevant anymore, today, so you always have to keep up. I spend I think everything together, four, five hours a week.

An Info-networker purposefully seeks new knowledge about something of interest to them, 'Google classroom' as a process to build expertise. In building this expertise they consume all the new ideas, knowledge and resources from their network, which may include trialling it in

the classroom, an intensive learning process to try to “keep up” even with updates year after year. This intensity indicates a level of curiosity and commitment underpinning the need to attain the latest ICT innovations. The Info-networker knows the main experts in the field e.g. “Alice Keeler”. Twitter enables them to connect with people and leads them to other experts to follow in the same area. In terms of content, they do more retweeting than sharing their own materials. Kate explains this by stating: “I do a lot of retweeting, because I go, ‘Why say the same thing?’ So I’ll give somebody else the credit for it, I’ll just retweet it. I’m not precious on having to be the first. I’ll tweet stuff that we’ve done in class occasionally”. This indicates a lack of competition underpinning the networking behaviour. Networking is as valuable as content consumption. The following representation (Figure 5) provides an info-networker professional learning model:

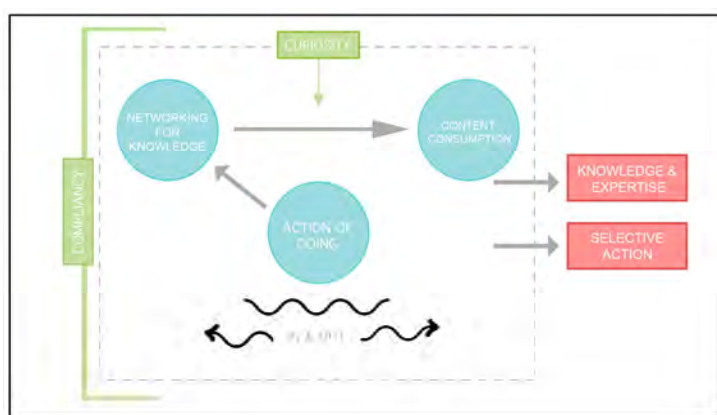


Figure 5: Info-networker professional learning model

For an Info-networker the action of doing is oriented to (people) networking only with consuming content as a means of sharing or retweeting with no underlying competitiveness. Curiosity exists when the Info-networker finds new ideas that interest them promoted by an esteemed colleague. The level of esteem that the Info-networker gives the colleague has impact on further investigation of the idea and on sustaining inquiry. There is evidence of transferring of what is gained online, selective action, to curriculum appropriation for the status of sharing with others online and with colleagues in their school. These teachers’ reason for professional learning in social media is to build knowledge and expertise through their professional learning network to share with others. Their PLN is a representation of their own expertise.

Category 3: Self-seeking contributor

The self-seeking contributor posts their knowledge, ideas and or curriculum materials to their professional learning network for self-determining reasons. These reasons may include getting specific feedback on or validation of their curriculum materials, to ask questions on a new ICT tools or technical support, or to acquire information about a pedagogical or educational innovation. Their social reasoning is to fulfil self-driven needs and their interactivity reasoning is to contribute content. They are active participants in their professional learning network when they require assistance. The following exemplar from one ICT expert provides evidence of this self-seeking contributing behavior:

I join into some Twitter chats every couple of weeks around computing studies. There's one on Sunday nights, sometimes I get motivated to just lurk in. It's a good way to connect with people that are actually doing the same subjects as you. I use HootSuite, you can see a couple of things going on at once. I wouldn't say that I sit down and talk, I've had a tweet every day. At a conference I tweet heaps. I don't lead chats. I don't really feel the need to lead a chat I suppose. If I just have some spare time and I want to see what other people in my network are doing, talking about, or tweeting about, then I'll just have a look at what's been tweeted in the last hour or day or whatever. Because those people often have either good resources to share or they're quite informed. In most cases people are mostly, they want to share themselves. It's a really cool way to tweet it out on any unit and then I've got it. There are those kinds of people. It's your subject. You can ask really specific things in those kinds of spaces. It's help and it's like even just to assume like, "This is what I'm doing. Am I on the right track?"

The self-seeking contributor is like the info-consumer who passively goes online to find specific resources for their curriculum activities as a process to build expertise. They have both a people and content orientation. The self-seeking contributor actively networks by "joining twitter chats" but prefers to limit their following to their subject domain. Their main objective in following people is, like the Info-consumer, to take away "good resources". They consume content to gain the latest ideas and curriculum materials and regularly use Twitter to see what "my network are doing", indicating some curiosity and competitiveness. They are more passive in this space "lurking" until there is a self-determining need. This self-determining reasoning distinguishes them from their other self-orientated counterpart. The self-seeking contributor moves from consumer to contributor when, for instance, when they have a problem or a question or when they need validation, in which case they contribute to the conversation and become part of the generation of new knowledge, "This is what I'm doing. Am I on the right track?" The following representation (Figure 6) provides a self-seeking contributor professional learning model:

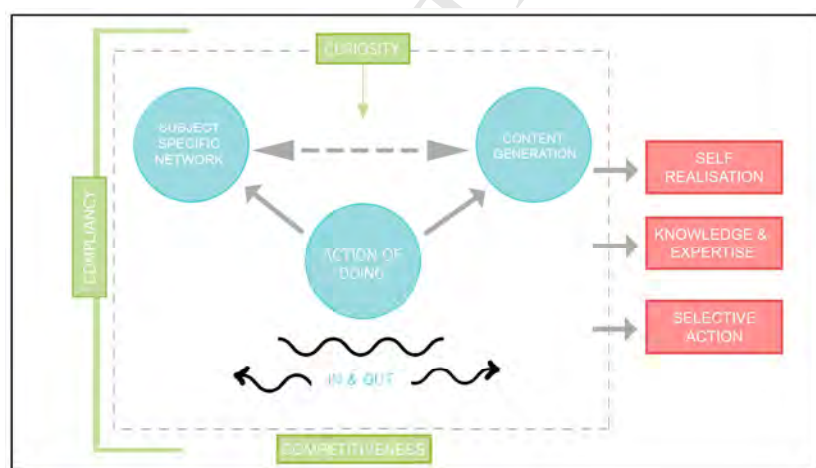


Figure 6: Self-seeking contributor professional learning model

For a self-seeking contributor the action of doing occurs when there is a self-determined need. This evidences in self-determining content generation as well as the passive consuming of new ideas and resources. They network to build a subject specific PLN. As they are seeking greater understanding of their own teaching capabilities by questioning

and/or validation activities there is a sense of self-realisation in their professional learning activities. There is evidence of transferring what is gained online to curriculum appropriation as their engagement is focused on curriculum development and innovation. These teachers' reasoning for professional learning through social media is to use their subject specific network to respond to their self-determined needs.

Category 5: Vocationalist

The Vocationalist engages in social media as a professional learning process to build the profession. Their social reasoning is to engage as a member of a community of learners and their interactivity reasoning is to contribute to the growing body of new knowledge. They have both a people and content orientation. They have a broad network, begin new threads or ideas, lead chats and actively trial new ideas in their educational context, feeding back to their community with reflective cycles. The following exemplar from one ICT expert provides evidence of this Vocationalist behavior:

You professionalise though Twitter, but you don't have actually a problem. It is a little bit in contrast with the deficit model, you have a gap in your knowledge you need to have a particular type of knowledge to solve the problem. It amazes me how by engaging on Twitter and finding a number of connected educators mainly in the field of ICT and education that has been a fundamental source of information, source of innovation tools. Kind of informal. But it is, it becomes very powerful when you actively start sharing your own idea. I always share everything. And I also take initiative to gather ideas on of other people in my network. For example, I simply launched a Google Doc which is editable for everybody in the world, and I said, 'okay who has got good mobile apps, and are they free and do they need to be paid for, and for which subject do you use them?' And I launch that on Twitter and it starts leading its own life. An economics teacher says, 'okay I want to have some good websites that show actual news on economics and financial studies.' And then I launch together with them that question on Twitter and often nothing happens but you see it is retweeted, people favourite it or say, 'okay I do not have a particular example but I follow this question.'

The Vocationalist promotes the good of the profession as implicit in their own professional learning. This idealism is evident in the premise of not having a “*problem*” but rather having the need to connect with educators and the power of actively sharing for self-realisation. They use their network like the other types to consume and gather new ideas, knowledge and resources, “*a fundamental source of information, source of innovation tool*” but they move to a different level of engagement as they actively generate new content “*launched a Google Doc*” and support their colleagues to do the same “*then I launch together with them that question on Twitter*”. This illustrates a social reasoning focused on others and the use of their interactive reasoning to contribute. Curiosity to inquire and the acknowledgement of an “*informal*” approach represent compliancy. Working with colleagues supersedes competition. The following representation (Figure 7) provides a Vocationalist professional learning model:

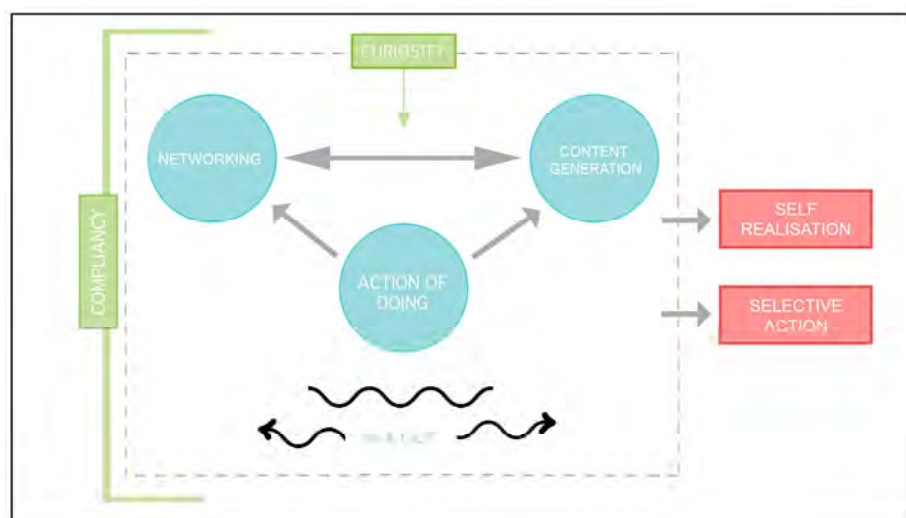


Figure 7: Vocationalist professional learning model

The Vocationalist extrapolates the self-generating professional learning model (Figure 2) without the underlying premise of competitiveness. The notion of self-realisation as a professional learning process underpinned by reasoning for a knowledge building community is evident and is symbolised through the co-dependent (solid double-edged arrow) interactions of people and content orientations. The people orientation is developed in context as networking and the content orientation as content generation. Actions driven by curiosity while acknowledging compliancy enable the constant reality of a professional learning space that responds fluidly to the educational space. The Vocationalist has a strong commitment to contributing, leading, responding and generating content for and with their professional learning community - their networking is for greater development of the whole profession.

Discussion with Implications

This research supports current findings on how teachers are using social media for networking and educational resources (Carpenter & Krutka, 2015; Davis, 2015; Forte, Humphreys & Park 2012; Hutchison & Colwell, 2017). It concurs with the definition proposed by Trust (2012 p. 133) that a professional learning network is a “system of interpersonal connections and resources” but differs from Tour’s (2017) in finding that PLNs are active with a reciprocal relationship of helping one another, which supports Baran & Correia’s (2014) finding that teachers share their knowledge, connect with other like-minded colleagues and reach multiple audiences. The findings present new understanding about how teachers reason for social purpose and interactivity purpose to action their professional learning which may or may not involve networking and/or content generation. This research highlights variance in how teachers use social media. These have been illustrated in four teacher types that action their learning in different ways through social media: Info-consumer, Info-networker, the Self-seeking contributor and the Vocationalist. This research has identified that teachers acknowledge their learning through social media as valuable, informal, and self-directed, providing selective opportunities to impact on their classroom practices. It distinguishes between an orientation to people or content. Curiosity as a disposition, competitiveness related to context and compliancy as a boundary all impact on

how teachers understand professional learning through social media. As a core premise to further research, a model that encapsulates professional learning has been proposed as 'Self-generating' in association with teacher action in social media.

In responding to the research question *How does an ICT expert teacher conceive of their professional learning through social media?* the four teacher self-generating professional learning types are proposed with three underlying implications for professional development: consumerist compared with contributing culture; impact and outcomes; and redefining 'effective' professional learning in the age of digital proliferation. The first implication identifies a difference amongst teachers who consume content online compared with those who are driven to contribute to the generation of knowledge. Contributing to the generation of knowledge indicates a more complex level of action than taking away ideas and/or resources and aligns with the seminal work on mutual engagement in Communities of Practices (see Lave & Wenger, 1991) and Communities of Inquiry (see Well's 2014 defining professional learning elements). It has long been understood that participants in a network need to be contributors, not just observers and/or consumers of group knowledge (Garber, 2004). However, as Lock (2006) suggested, not all teachers are ready to work collaboratively in an online community, as they need to be self-motivated, independent learners with self-confidence. Evident in this research is a move beyond a deficit model of teacher capabilities as determinants for contribution, with this research suggesting that lack of contribution may result from teacher's conceptualisations of professional learning online and their reasonings based on social and interactivity realms.

The second implication associated with self-generating professional learning is the inclusion and valuing of self-realisation as a process and outcome rather than focusing on impact on practice. Drawing on the work of Evan (2014), what could be considered outcomes of professional learning has been conceptualised as encompassing behavioural development-processual, procedural, productive and competential change; attitudinal development-perceptual, evaluative and motivational change; and intellectual development-epistemological, rationalistic; comprehensive and analytical change. Self-realisation draws on these behaviours but raises the focus to as a conscious analysis of knowing and how we come to know which is founded in action research based professional development (McTaggart, 1997) and aligns with 'actions of doing' online. This implies the need to consider reasoning of 'self' as a strong dimension of the teacher's learning through social media. Consequently, self-driven, self-directed and or self-determined professional learning needs to be understood with respect to the individual and their learning process.

The third implication associated with self-generating professional learning is the finding that the Vocationalist teacher type could be considered the most 'productive' or 'expert' type for self-generating professional learning. This has implications for what could be considered the most 'effective' approach to teacher professional learning through social media and therefore, suggests a direction on how to facilitate the move for a teacher from an Info-consumer to the Vocationalist type approach. However, further research is necessary to suggest such a 'development' is actually productive in alignment with deeper examination of outcomes and impact on student learning in association to face to face opportunities that are formal and informal. It is this nexus between *informal and formal* professional

development and how we consider professional learning that raises tensions that also requires further examination.

Conclusions

Teachers are getting online and using their professional learning networks to self-learn. From past research, we know that teachers go online to find educational resources and gain new ideas from those they consider like-minded or experts in their field. However, teachers are doing these things differently. Some teachers put more emphasis on finding educational resources while other prefer to follow people to uncover the latest ideas. In understanding the reasoning that drives the professional learning actions online, we can better understand this mode of professional development and ultimately re-conceptualise what would be considered effective formal *with* informal professional development in the age of social media. To do this, this research has gone one step back to try to understand in more depth the reasons for actions through social media. A new paradigm has been conceptualised, called self-generating professional learning. The enactment of this paradigm may look different depending upon how the teacher reasons with their self and interactivity domains. This reveals four different approaches to self-generating professional learning with social media: Info-consumer, Info-networker, the Self-seeking contributor and the Vocationalist. These teacher types can be used by professional development designers to develop individual understandings in teachers as well as to link with other forms of professional development. As this research uncovers the reasons why teachers network and generate content in different ways it provides a greater depth of understanding of how teachers' shape their learning. This research lays the foundations for further studies into teacher professional learning in general, the enactment of learning online, and the relationship to other forms of teacher professional development.

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