Social Media and E-Portfolios: Impacting Design Students' Motivation Through Project-Based Learning

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Abstract

University-level classrooms have seen a massive transformation from instructor-led to student-centered education, with many courses adopting project-based learning as an effective learning approach. As students become key actors in leading their courses, it is necessary to have high-level intrinsic and extrinsic motivation. In the search to enhance student motivation using project-based learning, this article proposes a framework based on self-determination theory, including various indicators of the level of students' motivation for learning. In particular, the framework was applied to explore the effectiveness of employing social media, such as Facebook, to increase student motivation. The results of this study demonstrate the usefulness of employing social media to amplify students' will to learn. This article reports on the results of action research in creative media design courses where students were required to develop an e-portfolio through Facebook. Eleven indicators (autonomy, confidence, eagerness to learn, high performance, independence, enjoyment, self-efficacy, sense of achievement, sense of belonging, sense of engagement, and sympathy) were used to measure motivation. As a result, this study argues for the conditional use of social media in project-based learning classes.

Keywords: creative media design course, e-portfolio, project-based learning, self-determination theory, student motivation, social media

With the rapid onset of technological advancement, higher educational institutions have become more willing to adopt social media to create a diverse learning experience for students. As teaching turns to focus more on student-centered pedagogy (Dunn, 2013), educational sectors are exploring different platforms to engage and motivate students in their learning (Oh et al., 2018). Among these education platforms, social media, especially Facebook, has become one of the most effective pedagogical tools, hosting blended learning platforms (McCarthy, 2010) to supplement traditional lectures. Employing social media in higher education can enhance the level of motivation for learning in students, who already utilize these platforms every day. Social media also helps students easily find information, enabling them to solve problems they encounter while doing their assignments, while the accessibility of using smart devices transcends the space and time of a physical classroom.

Social networking sites can assist students in interactive discussions that determine the potential for independent learning (Rasiah, 2014). They empower a transformation in students from passive listeners to active, intentional learners, which is the key to independent, student-centered learning (Ziegler, 2007). This approach is being applied across different disciplines, including subjects under project-based learning.

Project-Based Learning (PBL) is an essential learning process, especially in design-related disciplines like creative media design. Here students learn by doing, constructing their own knowledge and experience (Dewey, 1897). Through PBL, students fully engage in their learning, applying the skills and knowledge they attain in their classes to projects for solving authentic problems. PBL's philosophy is that learning can be more engaging when students initiate it through what they want to know rather than instructed by teachers (Lenz et al., 2015). According to Blumenfeld et al. (1991), providing students with challenging, authentic problems widens their interpersonal, experiential, and multidisciplinary skills. Most importantly, PBL motivates students to engage with the project, which in turn promotes interest in learning and enhances their level of understanding. Kolb (1984) argued that by observing and participating in PBL, students build experiences, constructs, and abstract concepts. They also partake in experiential learning cycles that help them generalize, internalize, and conceptualize their understandings. Through this progression, students may acquire and apply knowledge, increase engagement, attain achievements, and gain confidence, until eventually their level of motivation remains high (Blumenfeld et al., 1991).

As traditional PBL consists of face-to-face methods such as tutorials, and critique sessions, many teachers and students do not find it conducive to use PBL with standard eLearning systems in the classroom. PBL is rarely used in conjunction with online platforms in creative media or design (Park, 2011). However, with the active development of social media, daily communication and the dynamics of the classroom have changed. Heikkinen (2012) argued that an overall integration of social media could attract students' attention through its simplicity, flexibility, and freedom of speech. Using social media as an eLearning platform means that teachers can use existing models to infiltrate these established platforms for PBL and integrate learning into students' lives without them realizing it. Supplementing project-based learning with social media also allows students to experience self-learning and provides a sense of achievement.

Furthermore, social media might provide a means for students to stay intrinsically motivated throughout a project. Since technology breaks the barriers of the physical classroom, students, classmates, and educators can connect in cyberspace, which is impossible in traditional PBL. They are able to use functions like online discussion forums, bulletin boards, and instant

messaging programs to communicate and share their thoughts and feedback with each other on a daily basis from outside the physical classroom space.

Greenhow and Lewin (2015) claimed that the function of social media is to promote individual users through profile pages. For students in design, it is crucial to have a channel to show their work to the world. Social media, with its accessibility and convenience, has the potential to be a very effective platform to store and promote an individual's portfolio. As in many fields, the majority of today's design students use social media daily for various purposes, of which a certain proportion includes dealing with their studies. Clearly understanding the pros and cons of blending social media with design education would be beneficial to the future of pedagogical development. However, there is limited research related to the influence of social media on design students' learning processes and outcomes under project-based learning.

This paper investigates the topic of design student motivation when incorporating social media into the project-based learning process. Considering that e-portfolios are closely related to students' lifelong, independent learning, this study uses e-portfolios as a device to explore the influence of social media on students' intrinsic motivation under project-based learning. It aids current efforts to motivate students and help faculty members in the field who aim to foster student motivation using blended learning methods. To achieve this, the research addresses the following questions:

1. What are the factors that enhance student motivation in creative media courses?
2. How does the usage of social media benefit the learning of creative media students?
3. What impact does an e-portfolio have on the motivation of students engaged in project-based learning?

Literature Review

Project-Based Learning in Creative Media Courses
In creative media courses, education faces the key challenge of continuously motivating students in order to prevent them from losing interest in creative pursuits. Project-based learning allows students to challenge themselves through the independent learning process in terms of seeking solutions. Filmmaking projects, for example, including live-action and animation, provide students with creative freedom. These works represent students' solutions to problems and reflect knowledge developed in real-world situations, as the films they produce must be concrete and explicit (Blumenfeld et al., 1991). The final films ignite a sharing session among the learners, where students reflect on the steps that they have taken to build solutions to authentic problems, as well as what they have learned from the experiences and how they can improve their situation for the next round.

PBL is "a model that organizes learning around projects" (Thomas, 2000, p. 1) and involves integrating project assignments into the curriculum. PBL has become a common practice for promoting independent learning in students. Kolb (1984) argued that project-based learning provides students with a completely experiential learning cycle and gives students a perspective of experience, perception, cognition, and behavior along with their learning. Students in PBL courses develop concrete experience, reflective observation, abstract conceptualization, and active experimentation (Ma, 2016). This cycle helps enhance student motivations by using real-life, authentic problems and giving students ownership of their projects. They deal with real-world situations where they learn to build practical solutions beyond their domain knowledge and learn by constructing their own experiences. Additionally,

Blumenfeld et al. (1991) stated that these projects promote deep understanding, as students acquire knowledge and application of layers of information to improve their competence in thinking. With improved cognitive skills, students have the freedom to construct and direct their education as independent learners, meaning no more step-by-step commands by teachers (Lenschow, 1998).

Student Perception of Social Media in the Learning Experience

Researchers have found that the use of social media in higher education provides a collaborative setting for learning, permitting increased peer collaboration as well as interaction between educators and students (Collins & Halverson, 2010; Wodzickiet al., 2012). Unlike the previous generation, most college students are Generation Z who were born between 1995 and 2012. They are technologically savvy, and utilize social media daily (Singh, 2014). Palfrey and Gasser (2013) argued that those digital native students from the generation born into the digital age perceive the world differently from prior generations. Their perceptions are rooted in looser concepts of privacy, self, friendship, information ownership, communication styles, creativity, threat, and productivity than previous generations. They perceive social media as part of their lives and feel no reluctance in accepting it in their coursework. They see social media as a positive phenomenon that brings active dialogue and engagement with teachers and peers, and it can foster a positive relationship with faculty members, breaking down the characteristic barriers between teachers and students in a traditional classroom.

To these students, teachers appear more approachable and interactive on the social media, as they can engage in communication without physical boundaries. Mazer et al. (2007) suggested that cultivating a rapport between student and teacher can ultimately create a positive learning experience for both parties, as educators have been acknowledged as an influencer on student learning and the academic achievement at the interpersonal level (Rodriguez-Keyes et al., 2013). Shen et al. (2006) claimed that teacher presence influences student motivation, course engagement, learning achievements, and intention to use social media. Social media can not only help spark active dialogue sessions between teachers and students, but also foster a peer-to-peer learning environment. Sharing of ideas and exchanging feedback are other motivating factors for students.

Student Motivation with the Aid of Social Media Platforms in PBL

Facilitating an exchange of ideas and knowledge among participants in a learning community increases the intrinsic motivation to learn (Koh et al., 2010; Rasiah, 2014). Blumenfeld et al. (1991) posited simply including high-level projects that are interesting and meaningful to students is not a guarantee that students will be motivated to acquire the knowledge and develop the skills to complete them. Researchers have discovered that social media can play an essential role in increasing student motivation and enhancing the learning environment. These innovative means can alter the nature of learning boundaries and lead to the development of student teaching (Celik et al., 2014).

Creative media courses provide students with artistic goals. Supplementary external effects, such as seeing their peers' artwork receive attention online, may accelerate students' intrinsic motivation and create long-lasting effects. Receiving online peer comments and reviews can help students become more engaged. Student engagement consists of students demonstrating their interest and involvement in learning, and their connectedness to their school, and each other (Axelson & Flick, 2010). By using social networking sites, students can foster a sense of belonging in a virtual community where they showcase their work. In this space, two things happen: people see the students' work, and students see their classmates' work. The online

space becomes a self-perpetuating cycle of feedback through the standard of quality continually improves through active dialogue sessions with peers and teachers. Social media can offer opportunities for teachers and students to cultivate their interactions, which can eventually generate a positive learning experience for both parties (Mazer et al., 2007). PBL also promotes sharing sessions among learners to help students construct individual solutions and create knowledge through experience. The purpose of social media coincides with PBL when it comes to creating social interactions among the learner groups. With the aid of social media platforms, PBL could provide many more opportunities to spark student motivation especially with its essential characteristics of interactivity and direct engagement.

Research Methodology

Recognizing its effectiveness in blending real-life problems with education, PBL has been accepted by a wide array of disciplines, especially in the applied sciences, such as engineering (Lehmann et al., 2008), and business and management (Hogue et al., 2011). Design as an academic discipline often requires project-based pedagogy to help students apply their analytical skills, recognize problems, and build contextual knowledge in order to derive optimal solutions. Design education often adopts PBL, especially in studio settings, where students ponder "complex and open-ended problems," and experiment with various solutions (Kuhn, 2001, p. 351).

This study employed action research in an undergraduate digital media design course for two semesters at The Hong Kong Polytechnic University. Action research is appropriate here because it allows interaction between researchers and informants. It also balances problem-solving actions implemented in a collaborative context with data-driven collaborative analysis or research to understand the underlying causes, enabling future predictions about personal and organizational change (Reason & Bradbury, 2001). With the ethics approval from the university research office, a total of 60 students comprised the participants. They were asked to create an e-portfolio using social media. A total of 60 students participated, and they were asked to create an e-portfolio using social media. Researchers, in their role as instructors of the course, were able to actively be involved in "reflective thought, discussion, decision and action" (Adelman, 1993, p. 8) during the development of the e-portfolio. Given the characteristics of this study, action research is able to affect both instructors and students through an improved understanding of the process.

Two sets of qualitative data were collected from the 60 students' self-reflective journals and focus group interviews (Lederman, 1990). The results of the study aimed to identify the effectiveness of social media on students' motivation. The research was conducted in a period longer than 16 months, which allows participants to experience the entire process of the particular projects with the integration of social media. Social media was used as a learning tool for two consecutive semesters, including an animation-based assignment and the final project of the academic year. Participants were required to use designated social media platforms to showcase their works on a weekly basis and submit a self-reflective journal at the end of the two semesters. This became a formative process for constructing their own e-portfolio.

Focus group interviews were conducted after the completion of each semester in order to collect data from fresh memories.

Figure 1: Action research process

Conceptual Framework

To further explore the motivation of students using social media in project-based learning courses, this study adopted self-determination theory (SDT) and the motivational attributes of PBL (Blumenfeld et al., 1991) as the basis for action research. Self-determination theory (SDT) was developed by Deci and Ryan in 1985. It is a theory of motivation that concerns innate psychological needs as well as the external conditions that form the foundation of a person's self-motivation and individual personality (Cooper, 2014). This view has since evolved to include intrinsic motivation, by which researchers refer to an individual's internal interest and satisfaction. According to Ryan and Deci (2000), the more a person's needs for competence, relatedness, and autonomy are satisfied, the more intrinsically motivated that person will be in any given situation.

Under SDT, Deci and Ryan (2002) define as "feeling effective in one's interactions with the social environment and experiencing opportunities to exercise and express one's capacities" (p. 7), and relatedness as "caring for and being cared for by others, having a sense of belongingness both with other individuals and one's community" (p. 7). Autonomy is characterized by "choice, acknowledgment of feelings and opportunities for self-direction," and "a sense that one's actions are self-determined or self-authored" (Deci & Ryan, 2002, p. 8). Regarding motivation in project-based learning, Blumenfeld et al. (1991) proposed several factors to help students maintain motivation across an entire project. These motivating factors include a) interest and value, b) perceived and achieved competence, and c) task focus. Researchers have suggested that these factors should be considered when designing a project to create motivation from the students' perspective (Hilvonen & Ovaska, 2010). For interest and value, students are more motivated when:

- tasks are varied and novel;
- problems are valuable and authentic;
- projects are challenging;
- projects have a defined ending;
- choices can be made by students; and
- collaboration opportunities are available (Blumenfeld et al., 1991).

In the case of perceived and achieved competence, students require access to information and examples that can help them understand the project in its entirety. Students are more motivated in the following situations: their knowledge is sufficient and they have a specific skill to carry out the project; they are proficient in using relevant tools or skills; they are proficient in using the cognitive and metacognitive skills required to plan, make and test predictions, as well as interpret evidence and determine solutions; and they perceive the role of errors.

For task focus, researchers emphasize that the learning environment affects student motivation. If teachers make performance orientation the class focus, for example, students may not engage with the topic in a manner that promotes in-depth understanding as much as when they are in student-centered classroom. When enhancing student motivation and engagement, teachers' role place critically.

The conceptual framework for this research was developed using the primary motivators within SDT (Competence, Autonomy, and Relatedness) and the motivational attributes of PBL in Blumenfeld et al. (1991). It also provides the basis for designing questions for the semi-structured interview.

In Table 1, the right-hand column, 'Possible motivational indicators for PBL when using social media' presents a conceptual framework adapted from SDT and Blumenfeld. This column shows the motivational indicators for the situation specific to our research.

Table 1: Conceptual framework

	Motivational attributes of PBL (Blumenfeld et al., 1991)	Possible motivational indicators for PBL when using social media
Competence: - Learners feel effective in their interactions with the social environment - Learners experience opportunities to exercise and express their capabilities	Perceived and achieved competence: - Sufficient knowledge - Skill with tools - Problem-solving skills - Understanding of the role of errors Interest and value: - Various novel projects - Challenging projects - Authentic problems	Knowledge and understanding: - Students know how to use domain-specific knowledge through interactions with teachers and peers - Students use different social media platforms to learn various skills - Students communicate through social media, increasing competence and understanding
Autonomy: - Choice - Acknowledgment of personal feelings - Opportunities for self-direction - Sense that learners' actions are self-determined or self-authored	Interest and value: - Freedom over project performance Task focus: - Classroom setting - Role of educators - Encouragement from teachers - Supportive learning environment	Independence and control: - Students feel empowered to make their own choices when it comes to selecting preferred online learning platforms - Students use social media platforms for their own self-directed learning - Students gain confidence by having control over their PBL subject through active interaction with teachers on social media

Relatedness:	Interest and value:	Interconnectedness:
- Learners become caring and cared for by others - Sense of belonging, both with other individuals and within the community of learners	- Opportunities for collaboration	- Students share their understanding each other and learn from each other - Students feel a connection to each other in cyberspace - Students improve this connection by receiving feedback and sharing opinions - Improvement of student-student and student-teacher relations - Students feel a sense of belonging to their social media groups and learning community

By carrying out the action research, participants experience the process of integrating social media in their study. At the end of the semester, self-reflective journals from 60 participants were collected with their consent. These self-reflective journals provided information about participants' journey and thought in the process of creating e-portfolio. The information that reflects the benefits and disadvantages of using social media is extracted for data analysis. Participants were then divided for the focus groups interviews. A semi-structured questionnaire is formulated with reference to the conceptual framework (Table 1) for identifying motivational indicators for PBL when using social media.

Data collected from the self-reflective journals and focus group interviews were combined for a qualitative analysis. Researchers analyze the data through a coding process. The first code identified a common pattern and constructed the first set of motivational indicators. The second code incorporated motivational attributes in the conceptual framework and codified the first set of motivational indicators to describe the results of this study.

Results and Findings

The Willingness to Use Social Media
According to the results, the majority of participants claim that they often use social media in their daily lives. The social media they often use is Facebook or Instagram. They found that different functions on social media platforms do, to a certain extent, help them finish their tasks. The most helpful functions are discussed here.

- Posting functions. This helps in collecting fresh opinions or asking for resources like casting actors for content design projects. Some students mentioned that they use a "time dynamic" function, which only allows others to view their posts within 24 hours.
- Saving posts. Students always save interesting posts for references.
- Post forwarding. Students may forward information to others or share relevant material to group mates.
- Following pages or people. This is used to receive and review up-to-date information. This information includes both local and overseas works, which provide students a chance to learn by comparing works from different regions.
- Leaving comments. Participants will often leave their opinions on others' posts or read the comments on their posts from others.
- Group chats. Students can use the group chat function to communicate with their group mates.

The results show that all participants use social media in their daily lives. The majority of participants have experience and a high level of familiarity with social media. They have clear ideas about using the functions of the platforms, which indicates that they do not have technical barriers in operating them. Interestingly, however, they have various opinions about utilizing social media in their study, especially creating e-portfolios.

Barriers to Using Social Media for e-Portfolios
Most of the participants replied that they would not use social media for their e-portfolio if the teacher did not require it. The reasons for the low willingness to prepare an e-portfolio can be summarized into three points. The first is task priority. Some students found the e-portfolio useful and believe it did help them to finish their task. These students also answered affirmatively when asked whether they would use social media if their teacher did not require them to do so. However, when comparing actual rewards, such as grades, even these students put their school assignments as the first priority. They believe building an e-portfolio lacks formal instruction and a detailed marking scheme, making it more flexible than other coursework like the final year project (FYP). They would rather put their effort on the FYP or other coursework, than sacrifice the time on preparing content to post to social media and update their e-portfolio frequently.

The second point is the issue of privacy. Some students place high value on privacy and feel that exposing their work, especially when unfinished, is a breach of this belief. They prefer to keep their projects in high secrecy until it is complete. Even in this study, where they are required to upload their ongoing work frequently, students often treated the project as an assignment to be completed and would not post much detail about their work's progress.

The third relates to the students' discipline. Video-streamed students indicated that an e-portfolio is not really useful for their career development due to their belief that the filmmaking industry only considers final works. It is difficult to show pre-production or production processes online like animation students do. By contrast, a few students stated that they would use social media and e-portfolios even if they were not required to. These participants comprised animation or photography students. They believe they need a platform to share their works with the public and contact potential employers.

Benefits to Using Social Media in Education
Despite some hesitation in building their online portfolio, all participants agree that posting their works and communicating through social media does, to a large extent, bring them certain benefits. They believe that when they put more effort into the works they post, they can get even better feedback than expected. The benefits of using social media in this study are summarized as follows:

- A feeling of accomplishment. Self-accomplishment is the major benefit that students found from using social media. They are motivated when they receive comments (primarily positive) from others. This triggers them to put in more effort and do better in their creation.
- Selective and autonomous. Social media allows students to choose freely what they want to learn according to their own preferences. They can find related learning materials by themselves, instead of relying only on teachers. In addition, students are given the flexibility to adjust the learning pace according to their own needs.
- Facilitate communication. Compared with face-to-face teaching or tutorials, social media creates another convenient channel for communication between students and

teachers. Other students found it very useful in actor recruitment exercises. Still others believe it is useful for career promotion, as it is a very direct way to meet people meet. Students found that many companies would contact them through social media for further collaboration.

- No limitation on time, distance, or access. With social media, students can learn anytime and anywhere. They can repeatedly access online materials, while traditional teaching can only provide the lesson once at a particular time and venue. Participants also appreciate that social media allows them to reach up-to-date global information.

Motivational Factors Enhanced by Building e-Portfolios through Social Media

Participants recognized that creating an e-portfolio on social media enhances their motivation in various perspectives. The most commonly mentioned motivation factor comes from feedback they receive from peers, teachers, or the public. Receiving positive comments from others created a sense of accomplishment. This brings satisfaction; while at the same time, it drives them to improve and produce increasingly better works. It fosters positive competition and facilitates peer encouragement.

Another motivating factor relates to the communication advantages brought about by social media. Since social media connects people in the virtual space without limitations of time or distance, participants claim to feel more connected with the world. They feel as though other people are able to understand them well, and also come to better understand themselves through this communication. In turn, this motivates them to put more effort into updating their portfolios frequently.

Many participants enjoyed the freedom they experienced in this study. While required by teachers to update their e-portfolio frequently, all the content was their own design and they had absolute control in deciding what content to post. Therefore, they felt a strong sense of ownership. Thanks to this self-determination, they were more willing to contribute to their e-portfolio. Some participants mentioned that using social media enhanced their interest in their discipline by allowing them to reach more relevant information and up-to-date trends with fewer barriers. This provided students with varied inspiration when generating ideas.

Discussion

The Use of Social Media and Motivation in Creative Media Students

In analyzing the conceptual framework and the study results, social media does produce a positive effect on the motivation of students in project-based learning programs. The motivation facilitates an internalization of extrinsic factors into intrinsic motivation. These intrinsic motivations, all favorable to creativity, can be consolidated into four motivation factors: competence, autonomy, relatedness, and interest.

For competence, when students gain self-accomplishment by receiving comments or encouragement on social media, they understand their own capabilities better. This enhances their understanding of their perceived knowledge and skills and gradually develops their self-efficacy. Bandura (1997) described self-efficacy as "belief in one's capabilities to organize and execute the courses of action required to produce given attainments" (p. 3). It is one of the driving forces for creativity, as it reinforces the motivation of people to attempt creative outcomes (Tierney & Farmer, 2002). Therefore, the use of social media is beneficial to creative media students, not only for their learning motivation but also for enhancing their creativity.

Next, the results of this study show that students received opportunities for self-determination and independent choice throughout the entire experience of using social media and creating e-portfolios. Unlike other assignments, this experience perfectly matched the project-based learning approach. Students achieved a high level of freedom and control over their project performance, resulting in a sense of ownership. Deci and Ryan (1985) identified this as autonomy. The generation of creative ideas, as well as the design process, requires boundless space to explore and take risks. The more the students are free from regulation, the more creative they can be (Deci & Ryan, 1985; Shalley & Gilson, 2004).

Regarding relatedness, the purpose of social media is often to intensify the connections between people. Our findings indicate that the use of social media lowers the barrier of communication between peers, between students and teachers, and students and the public. In addition to receiving feedback, students are able to build connections with communities relevant to their preferences. Social media provides students with a clear sense of belonging, which can then enhance their motivation. The need for relatedness may change depending on age or culture, however. When Hasan and Hynds (2014) investigated the relationship between relatedness and motivation, the results showed that young people value their relationship with parents and teachers. This communication positively affects their motivation. Students may also feel more secure in expressing their ideas in a familiar community.

The use of social media provides a greater opportunity for students to reach content relevant to their interests. This enhances student interest and enjoyment in learning. Izard (2013) stated that interest forms the basis of intrinsic motivation. At the same time, interest also plays a crucial role in creative studies. By leveraging interest and enjoyment, students are more willing to explore novel ideas and exert their creative potential (Moneta, 2004). In summary, integrating social media into creative media programs enhances students' motivation in various perspectives: competence, autonomy, relatedness, and interest. This can influence their creativity, and the creativity of students largely affects their overall learning outcomes.

Motivation Indicators for Students in PBL Programs Using Social Media
Previous studies and theories agree that PBL has a favorable effect on student motivation. The results of this study are consistent with this line of thought and propose that social media can strengthen the influence of PBL on motivation.

As shown in the diagram below, PBL and social media work as attributes to motivate students, and together can induce 11 different motivational indicators when students perform well. Figure 2 below illustrates the theories and the results of this study.
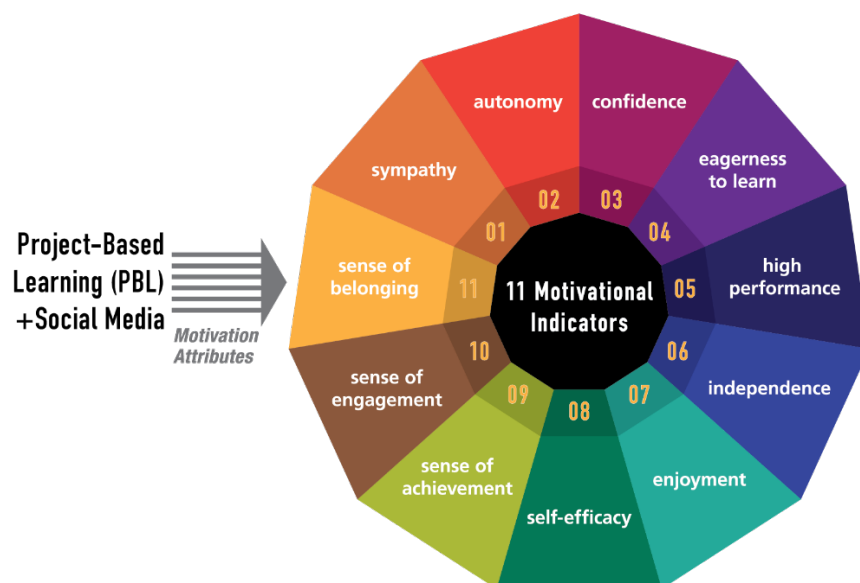
Figure 2: Eleven motivators and motivational indicators through PBL and social media

Social Media: Pros and Cons for Creative Media Students

The results of this study confirm that social media has its own advantages in increasing student intrinsic motivation, which is beneficial to design students like those in our program. It is also significant in the autonomy it provides to students during the process. However, not all students enjoy this type of freedom; in fact, student's own self-regulation mostly matters. If students are active learners, the freedom inherent to using social media can foster their motivation to learn and create better works; in contrast, if they are passive learners, the excessive information available on social media may confuse them. They often need more extrinsic motivation to encourage them for learning, so traditional face-to-face learning may work better with these students.

Moreover, formally incorporating social media into certain subjects and asking students to create an e-portfolio for assessment purposes can sometimes hinder student motivation. When posting on social media becomes compulsory, students may treat it as part of the coursework exercise. This can easily create resistance and pressure in students, as it violates their perception of social media as separate from study. It may discourage students' creativity while creative media programs in particular encourage creativity as a core teaching philosophy. Therefore, integrating social media into studies may be the pros and cons that need to be considered.

Conclusion

This study was designed to explore how social media can benefit the learning of creative media students, as well as the impact of project-based learning on student engagement and motivation when adopting SDT. As a result, researchers learned that using social media to create e-portfolios enhances students' intrinsic motivation. Specifically, students were motivated to maximize independent learning outcomes by obtaining seamless communication with peers, instructors, and public viewers outside of the classroom. Furthermore, the framework identified eleven indicators of students' motivational status for teachers to assess during a course.

This research yields a significant discussion of two leading trends in undergraduate education today. One trend is the rapid technological development of various educational tools and teaching materials. The other trend is the growing appreciation of student-centered learning modes. When face-to-face learning is limited, for example, during the COVID-19 outbreak, multiple technologies were adopted to develop distanced, online, virtual, and independent learning approaches (Chick et al., 2020). Aside from developing innovative solutions for virtual interaction between students and lecturers, it is also important to inquire into how we can effectively motivate independent learners at home. This research demonstrates that the accessible nature of social media makes it a relevant starting point to investigate this matter.

While this study does not cover creative media design classrooms in general, the action research and focus group interviews with learners found here can provide a deeper understanding and insight into the various approaches used to motivate students. Future researchers should attempt to validate these findings and develop the variety of demographics of the participants. Further studies could discuss different types of schools for comparison. A comparative study would be a logical and meaningful way to cover a wide range of respondents and verify the findings. To meet the new trend to engage in digital technology daily, the educational device also needs to transform. Building this study for future research enhances student-led independent learning mode for the sake of their fruitful future. Motivating students is always a critical factor in education, hence, encouraging them with different opportunities will be the key element to maintain to be motivated.

Acknowledgments

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