Cooperative Learning and the use of Blogs in Higher Education. Assessing a Study in the Field of Undergraduate Teachers' Formation

Aprendizaje cooperativo y uso de blogs en educación superior. Evaluando un estudio en el área de la formación de profesorado

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Abstract

Objective: To present results of a project fostering the use of blogs in several courses of Sociology of Education in a higher education environment in the first course of undergraduate teacher's formation. These blogging dynamics have been conceived as a way of promoting cooperative learning from the assumption that they may generate a greater social and ethical understanding among students. **Method:** Five teachers in their respective courses of Sociology of Education have conducted the same initiative during the first semester of two different academic courses (2018-2019; 2019-2020). Grouped in three to five, students had been posting articles relevant to exercises proposed by the teacher, during a semester of 14 weeks. At the end of the semester, students have answered questionnaires to assess their performance and to evaluate the blogging initiative. **Results:** Responses from the evaluation are globally positive, but it has stressed the need of a better technical support and a request to improve the building of cooperative learning skills. **Conclusions:** suggest that apart from technical aspects of blogging, a big part of the difficulties arisen by the activity were related to ensuring cooperative learning strategies. Clear instructions on how to promote individual accountability and group communication were deemed important in order to encourage and balance learner's participation.

Keywords: blogs; cooperative learning; higher education; innovative project; teacher training.

Resumen

Objetivo: Presentar los resultados de un proyecto que fomenta el uso de blogs en varios cursos de Sociología de la Educación en un entorno de enseñanza superior en el primer curso de formación de maestros. Estas dinámicas de blogs han sido concebidas como una forma de

promover el aprendizaje cooperativo desde el supuesto de que pueden generar un mayor entendimiento social y ético entre los estudiantes. **Metodología:** Cinco profesores de diferentes cursos de Sociología de la Educación han llevado a cabo la misma iniciativa durante el primer semestre de dos cursos académicos (2018-2019; 2019-2020). En grupos de tres a cinco, los estudiantes han estado publicando artículos pertinentes a los ejercicios propuestos por el profesor, durante un semestre de 14 semanas. Al final del semestre, los estudiantes han respondido a cuestionarios para evaluar su desempeño y para evaluar la iniciativa de los blogs. **Análisis de resultados:** Las respuestas a la evaluación han sido globalmente positivas, pero han puesto de relieve la necesidad de un mejor apoyo técnico y la petición de mejorar la creación de aptitudes de aprendizaje cooperativo. **Conclusiones:** Se sugiere que, aparte de los aspectos técnicos de la creación de blogs, una gran parte de las dificultades surgidas por la actividad se relacionaban con la garantía de las estrategias de aprendizaje cooperativo. Se concluye la importancia dar instrucciones claras sobre la manera de promover la responsabilidad individual y la comunicación de grupo a fin de alentar y equilibrar la participación de los alumnos.

Palabras clave: aprendizaje cooperativo; blogs; educación superior; formación de profesores; proyecto innovador

1. Introduction[1]

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[1] A prelaminar version of this paper was presented at HEAD19 Fifth International Conference (Higher Education Advances) with the title Cooperative learning and the use of blogs in

Cooperative learning through blogs, as well as online teaching strategies, could have a major role in teacher training in the future. Its importance is explained in part by the changes in learning conditions the Internet brought. A growing literature has dealt with this subject in recent years (Alventosa et al. 2015; Chawinga, 2017; Ifinedo 2107; Lee & Bonk 2016; Molina et al. 2016; Pinya et al. 2016; Shana & Abulibdehb 2015; Zheng et al., 2015).

Blogging tools

Online blogging is rapidly developing in higher education. Many academics are experimenting with building online communities, using blogs, social media and wiki tools in their courses to enhance student learning. Furthermore, social networks have increased its relevance as scientific communicational tools among academics in order to produce knowledge dissemination, among other goals. Some of the growing literature analysing the use of social networks in the academic environment has focused on the topic of blogs in higher education. Alventosa et al. (2016) argued that these practices facilitate access to knowledge, promoting more active and reflective participation in the construction of learning. The paper stresses that blogging amplifies the social experience of learning and at the same time provides evidence on the progress of students that may help re-orienting the teaching-learning process and stimulating critical judgment.

Chawinga (2017), from an educational technology perspective, explored teaching and learning using Twitter and blogs and showing how they become catalysts for a learner-centred approach to teaching. Pinya et al. (2016) highlighted the fact that although the blog

Higher Education. An initiative oriented to promote a deeper understanding of social and ethical issues between teacher students.

helps the development of digital skills, it does not necessarily guarantee its future use. In this sense, these authors emphasize the importance of combining the blog with reflective writing strategies, with feedback that drives changes on formation and with the use of other social networks. Shana & Abulibdehb (2015), along the same lines, argued that blogs could be used as a tool to facilitate deeper learning, using open-ended questionnaires, student journals and reports, and end-of-class e-portfolios. In sum, we can state that the literature stresses that blogs have the potential to empower and to enhance student learning.

However, problems related to students' participation and teachers' management of edu-blogs are also identified by the literature. Molina et al. (2016) for instance, underline the importance of offering prior and enough information about their use. Several researchers analysing students' perceptions and motivational aspects of building online learning communities point to the same direction. Ifinedo (2017) showed how perceived self-efficacy, personal outcome expectations, and the way support to improve social ties within the group is perceived are pertinent aspects to persuade students into accepting the use of blogs to improve their learning. Lee & Bonk's (2016) study, along the same lines, shows how learners perceived emotional closeness with other learners after using blogs for writing and sharing weekly reflective journals. Student interactions may be analysed here in terms of the online interactions among them, the numbers of replies that individual learners had posted, and the ones received by other posts The findings of Lee & Bonk (2016) indicate that, after the use of blogs as a learning tool, peer relationships have noticeably changed at the end of the semester, compared to those at the beginning.

Cooperative learning

In the study the cooperative group-based learning is especially important. As pointed out by

Jareño et al. (2014) the emphasis on cooperative learning is related to the use of new tools in the assessment of learning strategies. One of the most interdisciplinary competencies is cooperative learning and could be considered one of the most difficult ones to be assessed. This learning involves team building, defining objectives, organizing strategies, and accompanying transdisciplinary and intercultural teams, among other activities. But when assessing these capabilities, several controversial elements may appear. Following Jareño et al. (2014) the effective work carried out by the group, the individual involvement, the organisation within the group, or the cohesion and the communication among members, are relevant and often controversial elements suitable to be assessed. The way this assessment is carried out is for sure a big challenge for teachers promoting cooperative group-based learning in an online environment. Is here where students value the fairness of the grades resulting from group blogging strategies. It is crucial to improve the processes that aim to converge self-evaluations of each student with those carried out by the rest of their group. It is common for students to consider that their contribution to group work is more significant than their peers. In this aspect, the cited authors suggest introducing mechanisms to give more visibility to the individual contribution inside each group (Jareño et al., 2014: 78).

Recent studies with students enrolled in the Early Childhood and Elementary Education degree in Andalusia and Basque Country (Spain) (Cabrero y Marín, 2014), show that 80% of them recognize cooperative learning as the best way to learn. These also show that students are less competent in the use of digital tools as it is presumed. Because of this, it needs to be said that students are highly motivated to learn about digital tools in order to use them in their future educational work. In a complementary view to the previous statement, Foldnes (2016) points out that cooperative learning happens when peers collaborate on the culmination of learning goals through discussion and mutual support in a group. (Foldnes 2016). This implies allowing class time to work with the group.

One of the main characteristics of cooperative learning is the adoption of a positive interdependence among learners sharing a common objective. Students interact with each other to study a subject matter and to meet common learning goals. Following Macpherson (2007), we must avoid thinking that cooperative learning will happen by magic, putting students in groups. The generation of a learning situation from which cooperation dynamics can emerge is crucial. Generating the conditions of need for such cooperation is one of the critical issues in the adequacy of group tasks. In this sense, it is essential to grant class time and teacher attention to developing collaborative skills.

According to Macpherson (2007) it is also crucial to pay attention to individual accountability. This task requires an exchange of ideas and weighing of positions that subject the role and contribution of each student to evaluation. It also requires disseminating such evaluation results to the group and the person in question. In cooperative activities like blogging, the fact that students have to distribute different types of tasks among themselves, in many cases keeping an autonomous balance without the guidance of an instructor, might easily become controversial in an evaluative environment. The ideal of cooperative learning implies interaction and contribution of each member of the group towards a specific objective, but when the work that has to be done by each member of the group is not well defined this tends to produce frictions. Then, dynamics promoting cooperative learning require commitment from each person of the group as well as mutual compromise and understanding to persevere when facing difficulties. As previous research has shown (Masjuan & Elias 2017) the role of the instructor promoting individual commitment is key. Decentralized autonomy can promote resolution abilities and allows students to develop social skills like active listening, debate skills and respect.

Summing up, we can state that the use of 2.0 tools in class adds a key value to digital literacy:

a window of opportunity to work around cooperative skills. The pedagogical use of digital social networks can promote a continuous training on personal, civic and community-based relationships, facilitating the acquisition of roles and practices that entail major gains in reaching consensus and overcoming conflict situations. However, according to the literature on cooperative learning, this is always dependent on good planning and preparation on the instructor side and their teaching strategies.

Methodological note

In order to contextualise how the study has been conceived and developed, in this section we present its main objectives from a teaching perspective. We also present here how students have learned the main goals of the initiative through a formative co-evaluation. This is followed by an explanation of the mechanisms used to evaluate the goal achievements.

The main objective of the innovative teaching project behind the blogging initiative was to promote cooperative learning as means to develop an ethical and social perspective among undergraduate students. This was accompanied by the aim of consolidating working methods and tools that are crucial in order to enable student-centred learning-processes. Along the same lines, the development of these transversal skills had an important role in the justification of the initiative. Skills that are required in higher education in the twenty-one century: ethical commitment, learning and responsibility skills, communicative abilities, creative and entrepreneurial thinking and teamwork experience. All of them are linked abilities directly treated by the initiative.

During the teachers' presentation of the initiative in class they underlined the importance of several specific objectives related to digital literacy and the challenges they presently pose in higher education environments. Moreover crucial activity goals were explicitly stressed, for

example, learning to be respectful and showing a critical perspective on online publications; to create texts in a cooperative way considering the key importance of checking every article on academically supported grounds, and to build, share and protect a critical citizenship perspective in the blogosphere. Also, as other specific objectives of the initiative, the importance of developing interpersonal skills by improving oral and writing communication capabilities was clearly stressed by all the teachers; the aim of learning to assess, and to rigorously value other students' tasks; or trying to create interest around the content to make it attractive for other classmates.

Bearing in mind the objectives mentioned above, each group of students was exhorted to assign several tasks amongst themselves to ensure a regular writing activity for the blog. Following the class rhythm and contents of the subjects presented by the professors, each group was asked to carry different tasks selected by each professor. These posting activities were heterogeneous and included summaries of texts about a subject, specific investigations on educational issues from a sociological perspective, critical analysis of laws, case-studies, analysis of films, songs or books, among others.

In order to achieve an optimal blogging activity, students were engaged in a formative co-evaluation dynamic. Each group had to evaluate three different blogs from the same course twice (mid-course and end-of-the-course). Students had put together a list of items including quality of text, record of entries, formality, links between theory and practice, and the blog dynamics as a social network. To have an evaluation rubric for assessing blogs performance has been especially useful from the students' perspective, in order to understand what the goal of their cooperative work was.

Headlines of the rubric used in the co-evaluation process:

1. **Quality of the written texts**: quality of the text and the contents exposed, the argumentation of the reflections exposed.
2. **Consistency in the writing and intention of the format:** number of blog posts, publication frequency and regularity.
3. **Formality:** Title clarity, blog coherence and source citation.
4. **Theoretical-practical link:** Link to aspects presented in the course.
5. **Fluency as a social network**: presence of links, number of followers, visitor registrations, use of the different resources offered by a blog.

The group-on-group evaluation had a clear formative purpose and served to promote the interaction among students and their blogs. Each group had to comment on the posting activity of their peers. Regarding this first co-evaluation dynamic, it showed that students generally appreciate the work their peers developed, even though they tend to be more critical than teachers about the technicalities and the use of the tools and resources a blog offers. Additionally, feedback among colleagues has helped teachers visualize the need for more collaborative work among them in order to facilitate a practical development of the blogs and class time to do so.

Evaluation mechanisms

Framed in the core of a previously defined teaching innovation project, the blogging study that we assess here was implemented during the first semester of two consecutive academic years (2018-2019; 2019-2020). The activity was conducted by five teachers of Sociology of Education in two different but closely related undergraduate studies of the Faculty of Education (Early Childhood Education degree and Elementary School Teacher degree) at the University of Barcelona. The initiative reached a total of 550 students (300 during the first course of implementation and 250 during the second). From the students' perspective, the

activity was included in a compulsory subject in the first semester of their first university year. There were approximately 50 students per class and the activity involved approximately 10 groups of 5 students in each course.

The study was assessed through an individual questionnaire at the end of the first semester of both academic years by 451 students (262 at the end of the first year and 189 at the end of the second). This online individual questionnaire was conceived both to collect data from the cooperative learning dynamics performance generated inside each group as well as to assess the individual opinion on the utility of the blogging activity as a learning tool. The final student assessment of the study complemented the formative evaluation activity of the course. In the middle and at the end of the semester a peer-to-peer co-evaluation regarding several specific items was carried out to analyse the quality of the blogs produced by their classmates.

Additionally, we produced a focus group to evaluate the study from the teacher's perspective at the end of the second year. In this group we assessed the general aims of the initiative and the skills and abilities the initiative involves as well as which were the main difficulties of its implementation and the greatest challenges to identify in further developments. The five instructors that carried out the initiative had no previous blogging experience.

Study evaluation from the instructor's perspective

Although blogging could be clearly seen as a useful tool to assess the students' degree of acquisition of contents presented in class, from a pedagogical perspective, during the assessment a concern appeared about the amount of work that it might entail for the teacher. One of the big challenges when implementing this type of learning strategy is surely being

able to keep up with the continuous assessment and maintain a proper following up of the students' posting activity. An optimal development of student's learning requires constant feedback from the instructor's side.

Online learning is an active and dynamic process in which is necessary to consider different learning styles and a heterogeneous approach to digital skills. Furthermore, the material posted by students is expected to receive comments by other students without the instructor's supervision. Regarding this, students must include comments on other blogs other than their own. Evaluation and co-evaluation were used at different times to assess tasks, particularly to look at concrete aspects of cooperative work.

The promotion of interaction in an online environment is surely one of the main challenges of this type of teaching strategies from the instructor's perspective. While proposing learning activities about a subject might be understood as a traditional activity for most undergraduate teachers, having to adapt to the dynamics of using a blog as a social network is not normally a previously acquired skill for many of them. Having previous experience in social networking use is for sure an important asset to consider when proposing blogging as a teaching strategy. As pointed out by Menkhoff et al. (2015), blogging in higher education effectively engages students. It allows attending questions and debates throughout the class and outside of it. It also serves to provide advice on the individual work necessary to undertake the learning objectives. But it certainly requires some fluency on the instructor's part to manage this type of web technology. In our case only two of the five instructors leading the initiative had some previous experience.

Blogging implies a variety of abilities from content writing to cloud-computing and web-related coding abilities, among others. Coding abilities as learning basics of HTML code (Hypertext Mark-up Language), the standardized language that tells a web browser how to

display a web page or knowing how Search Engine Optimisation (SEO) works, have not been considered necessary in our approach. Although these skills are considered useful by most of the online literature listing blogging-skills, when in a context of an undergraduate course we suggest the use of standardised blogging platforms such as WordPress.org, Blogger or Sites where this type of specialised knowledge becomes less relevant.

The adoption of new cooperative writing skills is for sure one of the main results that this type of learning strategies may produce in a higher education environment not specifically oriented to IT learning aims. To pay attention to the development of proofreading routines, of writing and editing acted as one of the main points for conceiving this activity as a teamwork initiative. Having to double-check every post, having to look for mistakes that could be either misspelled words or grammatical errors among other basic editing procedures, are useful examples for teachers in order to present and to justify the development of the activity in a group setting. A useful message employed by the teachers who carried out the initiative was to affirm that each group working on a blog should function as an editorial board of a corporate publication. This was to convey the idea of becoming content curators with the mind-set of being editors of a magazine or a newspaper and has served as a good analogy according to all instructors.

Another important aspect to facilitate the writing of well-structured and coherent posts is to offer good sources of information, and to promote research skills as an important part of the process. In this sense, it is key for instructors to foster impartiality among students, so they keep every statement in their blogs free from a bias by gathering information from multiple sources. Learning to pay attention when citing and to provide bibliographical references are skills worth teaching that have been proven useful to highlight the importance of academic rigour and being at the same time useful to improve students' writing skills.

One of the main challenges, from the instructor's perspective, when implementing the initiative was to keep proposing exercises with a strict regularity. These were related to the contents being taught and were useful for the students to keep practicing their posting skills. On the same note, for teachers to stress the importance of offering short responses to each of the suggested assignments was crucial according to their assessment of the initiative. To provide a maximum length for every post – to get to the point - was an important recommendation for an optimal blog performance. Underlining that the longer that the posts are the likely readers are to skip over a blog was an important idea stressed by instructors.

From the teachers' point of view, editing images and providing good pictures were other skills also considered important in order to attract readers' attention. This is an aspect acknowledged as one of the big contemporary changes in the digital culture landscape. The predominance of the image as the central communication tool over the written word. How higher education will adapt itself to the new and shorter attention span is an important question underlined by using this kind of learning strategies. It reveals the need to rethink the use of images in learning strategies as one of the main current challenges in teaching innovation. When using blogs, it is clearly apparent that a good picture selection is as crucial as the good use of words is to its success. To give importance to photo editing skills could offer an opportunity to raise awareness among students about the current evolution of copyright legislations. It could, as well, introduce the subject of personal responsibility in making use of copyright-free images stored in online repositories of pictures and protected by creative commons licenses, which enable free distribution.

In sum, from the perspective of a group of instructors introducing the use of blogs in their teaching environment, the abilities oriented to promote critical thinking and ethical development were given special importance over all the competences that become important

when using blogs in a higher education environment. Moreover, we have considered the use of the blogs as a teaching strategy that fosters critical thinking among students, and this is followed or in addition to a clear rubric for the evaluation of each blog. We believe that writing for a wide audience already promotes critical thinking.

Study evaluation from the students' perspective

The individual questionnaire sent to the participants at the end of the course included ten selected training skills addressed by the activity marked in a scale between 0 and 10 (see Table 1). Two open questions regarding the pros and the cons of the initiative were also included. The same questionnaire was presented in the two consecutive years that the study was carried out.

Table 1. Average evaluations on the acquisition of training skills. Academic years 2018-19; 2019/2020

	Course 2018/2019	Course 2019/2020
Proactivity and participation to achieve results	7,6	8,1
Being aware that the online publications have its significance	7,0	8,0
Creative and entrepreneurial skills	7,2	7,9
Approaching the content in a responsible way	7,1	7,8
Reflection and critical thinking	7,2	7,8
Being respectful and honest with the authorship	7,3	7,7
Linking between theory and practice	6,8	7,7
Oral presentation of ideas seeking consensus	7,6	7,4
Being respectful with other's points of view	7,0	7,4
Writing skills	6,8	7,3
Total	**7,2**	**7,7**

Note: Authors' own elaboration.

In the first year of evaluation, improvement of oratory skills and fostering proactivity and participation received the highest scores as the main training skills the blogging initiative provided. The fostering of proactivity and participation also scored in the first place in the second year. This suggests that the best ranked abilities from the students' perspective are those better suited to an optimal development of the ideal of cooperative learning. On the contrary, those learning skills that could be considered individualistic, appear to have lower scores. In the first year of evaluation, the usefulness of the blogging activity to strengthen the link between the course's theory and practice and its drive to foster writing skills betterment obtained the lowest scores. In the second year of evaluation, the fostering of writing skills repeated as the lowest score. This could be analysed as the proof that students' perceived difficulty of the blogging initiative is not related to the content of the posting activity and its particular relevance to the subject taught in class, but rather related with those specific skills that blogging requires and the cooperative and interpersonal work that it entails.

This same idea can be stressed after analysing the open questions in which we obtained genuine qualitative evaluations. Table 2 shows the questions regarding pros and cons of creating a blog and the relevant contributions that collaboration with other students might have.

Table 2. Pros and cons in student's evaluation.

	Dimensions	
Pros	Improvement of cooperative skills	44,3%
	Improvement sharing dynamics and interpersonal skills	16%
	Improvement of sociological thinking from a critical point of view	11%
Cons	Lack of technical knowledge as well as practical guidance in how to develop a blog	46,8%

Lack of enough time to transform the suggested exercises into posts	20, 8%
Difficulties regarding team-work organization	15,6%

Note: Authors' own elaboration.

The lack of technical knowledge as well as not enough practical guidance to know how to develop a blog scored 46,8% of the cons becoming the main difficulty of the activity. A general request for more time in class to develop the blog in a practical manner with teacher support was detected in both evaluations. Another big group of cons (20,8 %) pointed at the lack of time to turn the suggested class exercises into posts. In addition to this, 15,6% of the cons were difficulties regarding team-work organization and many students expressing difficulties to meet up in person with their group mates to get the job done. Along the same lines, 7,8% of the expressed cons mention the unequal effort and commitment shown by different group members in the development of the blog stressing problems on balancing peer dedication to the different tasks required by the exercise. Many of them also pointed out the need for some help to develop negotiation skills

If we look at the pros, 44,3% of the positive responses stressed that the initiative improved their cooperative skills. Many of them define the exercise as an activity that drives cooperation and creativity and that boosted commitment to the subject during the semester. A share of 16% of the positive responses recognised that it has had an important impact on their way of thinking, improving their sharing dynamics, and interpersonal skills. A group of 11% of the expressed pros pointed out that the project made them see society from a critical point of view. Among these positive assessments some suggested was helpful to learn to summarize information and to try to explain things having a broad audience in their minds.

It is a way of reflecting about particular topic and being able to listen to different

opinions. Another positive aspect is that we could share different ideas with other groups or with people in same the group and thus were able to see similarities and differences of thinking. (Student from Early Childhood Education degree).

It worked out really well inside the group, there was a general common ground among us, and the activities were distributed in the best possible way. We helped each other and we always had new things to do. The activity also worked really well in order to get to know our colleagues better. There are always those who are more creative, who know how to write well, etc... We all came up with ideas and we did it very well! It is very satisfying to work in groups and see how we all bring out the best of ourselves. (Student from Elementary School Teacher degree).

6. Final considerations

Online and cooperative learning are framed in a sociocultural context where both the 'how' (socially) and the 'where' (online) have a critical role. Vygotsky (1979) recognised that learning is a social phenomenon: we learn through our interaction with others. Following Gros (2000), in a cooperative learning environment, group members commit themselves to learning together. Following these observations, we can suggest that positive results will only appear when there is an agreement on shared objectives within the group. This means that, in many cases, who is going to work, when and in which circumstances, has to be clearly stated and agreed. As teachers promoting cooperative work in a higher education environment, we are confronted with the challenge of guaranteeing that all group members contribute to the team working effort in a similar way.

As Zañartu (2011) concludes, it is difficult to monitor the time each individual has contributed to the overall group work. But individual accountability, as Macpherson (2007)

17

stated, may be clearly and particularly facilitated from an instructor guiding and planning perspective. Fostering individual accountability is at the end one important principle to keep in mind when promoting this type of collaborative practices. In addition to this, all organisational skills associated with teambuilding are important. As we have observed through the positive evaluations on the initiative, by means of collaborative learning strategies it is possible to stimulate individual initiative. Students thrive when they take part in a group and put their abilities to reach a shared objective. This particularly stimulates their motivation and entails a surge in their productivity. In addition, it could improve their self-esteem and their attention to values like solidarity and mutual respect. From the instructor's perspective an important question here is how to find a balance between the contents and the process in which those contents are learned. Attention paid to participants who dominate the group in detriment of those who remain silent is a matter to be carefully considered. Tackling this issue means to strive for balance when communicating with the learners and to provide clear group guidelines for communication.

As a matter of a fact cooperative work must be considered as the crucial concept when promoting online blogging strategies. Regarding the pros and the cons collected in the students' evaluation, cooperative work always appears in first place, either to suggest the most valuable strengths of the project, or to stress the main difficulties related to its application. As a result of this, apart from enhancing technical guidance on the practical knowledge needed to develop a blog, we can state that what our evaluative inquiries had showed is that cooperative work assumes a key role in a proper development of such educational strategies. In consequence we strongly support the idea of the teacher formation and the clear guidelines to assure effective cooperative work may be one of the best measures to consider in fostering these types of teaching-learning strategies.

Previous work Statement

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