

Masterthesis

Positive Psychology & Technology

**Becoming a professional: Can autobiographical writing add value
to the construction of a Professional Identity of social work
students**

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1. ABSTRACT

Social work education still does not prepare students appropriately for their future as young professionals. Since constructing a professional identity (PI) is important, education should not miss to include it in the learning programme. One way to strengthen the PI construction of students is through reflection. The classic method of critical reflection focuses on the evaluation of a specific meaningful event with the goal of improving the actions of the individual. Autobiographical reflection is a method that focuses on narratives in form of past experiences to adapt future actions. Recent literature found that the latter method focuses on the reminiscence functions and benefits well-being because narratives support the resolving of negativity. It is also beneficial for meaning making and therefore might strengthen the PI construction. This is why this study suggests an added value of autobiographical reflection compared to critical reflection. However, in literature there is a lack of research that investigates these constructs together over time. A randomized controlled trial was conducted on three measure points with three different conditions consisting of 244 social work students of a Dutch university in total. Condition 1 consisted of critical reflection lessons, condition 2 consisted of both critical reflection and autobiographical reflection and condition 3 consisted of both critical and autobiographical reflection and included persuasive technology in the learning environment. Five different questionnaires were used to examine the PI, well-being, reminiscence functions, level of reflection and perceived persuasiveness. There were no other interaction effects found between the three conditions and time regarding the PI, well-being, reminiscence functions, and level of reflection of the students. However, autobiographical writing did have an effect on the practices of the students. Additionally, students who received both autobiographical writing lessons as well as critical reflection lessons, reached a higher level of reflection than compared to the other two conditions. Furthermore, conditions 2 and 3 did not differ in their perceived persuasiveness of the online learning environment. Results showed that the students, irrespective of condition, at first showed increased exploration of their PI, which decreased in a later stage. The study also found that over time, the social and overall well-being of students rises and that they engage in more practical activities regarding their future work. Further research is necessary to confirm the effects found in this study.

Keywords: professional identity, autobiographical reflection, critical reflection, social work, persuasive technology

2. INTRODUCTION

(PROFESSIONAL) IDENTITY CONSTRUCTION

While changes in adolescents' biology and social environment foster the development of identity through reflection on former identifications and exploration of various identity domains (e.g. education, religion, politics), this identity construction does not end with puberty (Crocetti, Sica, Schwartz, Serafini, & Meeus, 2013). It rather is a start of a life-long process (Erikson, 1959). Recent literature agrees, that identity is not something permanent and consistent (Beijaard, Meijer, & Verloop, 2004; Rodgers & Scott, 2008; Akkerman & Meijer, 2011; Marín, Tur, & Challinor, 2018). According to Beijaard, Meijer, and Verloop (2004), identity may be influenced by personal, social and cognitive factors (Beijaard, Meijer, & Verloop, 2004). Therefore, the concept of identity, that people hold, is changing and multi-faceted.

According to Flores and Day (2006), identity construction “entails the making sense and (re)interpretation of one’s own values and experiences” (p. 220). Marín, Tur, and Challinor (2018) add that identities consist of “internal states” as well as the “performance in society”, which change depending on different contexts. This latter definition is based on Brewer’s (1991) optimal distinctiveness theory, which is the need of balance between an individual and society. Therefore, an individual aims for perfect balance when comparing and differentiating oneself from other individuals or the society (Adams, Hean, Sturgis, & Clark, 2006).

Mancini, Caricati, Panari, and Tonarelli (2015) extended a model of identity formation proposed by Crocetti and Meeus (Crocetti, Rubini, Luyckx, & Meeus, 2008), in which they describe five identity processes. The formation starts with in-depth exploration, where an individual evaluates the commitment towards his or her identity until now and weights it up against possible alternatives. There is no set choice yet but in the next process, which is called identification with commitment, the individual is getting to a decision on important aspects of his or her identity by adopting actions for its implementation. If individuals detect a lack of satisfaction towards their choice of identity aspects, they reached the process of reconsideration of commitment, where they compare their current commitments with alternative ones. The two more processes that were added to the model are practices and affirmation. Affirmation “captures the importance one attributes to the professional category to which one belongs and the sense of pride one feels as a member of that category” (Mancini, Caricati, Panari, &

Tonarelli, 2015, p. 142). Practices is the “behavioural involvement” of individuals, where they act supportively towards their identity of choice (Mancini, Caricati, Panari, & Tonarelli, 2015).

Out of all the groups a person might belong to, in most people’s lives, their profession makes up a great part of how they define themselves (Adams et al., 2006). This means, that the decision for a job is significantly influencing an individual’s identity, by creating a so-called professional identity (PI). The concept of PI has been extensively discussed in research, which resulted in various definitions. Slay and Smith (2011) describe PI as the image individuals hold of themselves as professionals and Ibarra (1999) adds that this image is made up by their specific job attributes, beliefs, values, motives and experiences. The professional identity theory of Kelchtermans (2009) states that PI consists of self-image, self-esteem, task perception, work motivation and future perspective. According to Rodgers and Scott (2008), PI is influenced by context, formed in interactions, changes and is involved during meaning making. All definitions suggest that building a PI is important and beneficial for oneself, because it is allocating meaning to who the individual is (Ashforth, Harrison, & Corley, 2008; Caza & Creary, 2016). This is, because identifying with one’s profession might decrease uncertainty and might contribute to an individual’s self-enhancement (Hogg & Terry, 2000).

The term ‘professional’ is positively associated in today’s society (Caza & Creary, 2016), which is why identifying with one’s profession is likely to be beneficial for one’s psychological well-being (Haslam, 2001; Caza & Creary, 2016), e.g. by enhancing self-efficacy and self-esteem (Ervin & Stryker, 2001). Thus, constructing a PI, provides individuals with purpose and meaning for themselves and demonstrates their contribution to society (Caza & Creary, 2016). In fact, the definition of ones’ professional role in work can serve to reach a superior understanding of the individual’s identity as a whole (Trede, Macklin, & Bridges, 2012).

Research has pointed out that there is a need for a strong PI in higher education, because work environments are constantly changing (Trede, Macklin & Bridges, 2012). However, the decision for a specific profession alone does not necessarily mean that a strong PI will be constructed. This suggests, that a PI first needs to be formed and that there are factors who might support this construction.

While the majority of literature investigated the construction of PI in becoming teachers, recent literature has been focusing on social work students as matter of interest. Several authors stated that change and improvement of social work education play an important role in the construction of a strong PI (Sims, 2011; Pullen & Crête, 2016), next to personal experience and

perception (Sims, 2011). Beauchamp and Thomas (2009) complement this and state that it is important to add the awareness about the need of a PI as well as its construction to social work education. Furthermore, Trede, Macklin and Bridges (2012) argue that the content of the students' education has influence on the construction of a strong PI. According to Spector-Mersel (2017), students are expected to engage in continuous exploration of themselves and their work as well as to broaden their self-awareness. It therefore can be concluded that social work education needs to orient towards self-exploration, in order to ensure the building and strengthening of PI of social work students.

CRITICAL REFLECTION

According to Trede, Macklin and Bridges (2012), reflection is offering an option to strengthen the PI. In the development of one's PI, reflection is seen as the key process (Marín, Tur, Challinor, 2018), because it mediates between the individual's experience and his identity (De Weerd, Bouwen, Corthouts, & Martens, 2006). Since PI is providing a framework for making sense of oneself, reflection provides individuals with a tool to make experiences and actions meaningful and understood (Trede, Macklin, & Bridges, 2012).

Reflection regarding the profession, can be seen as an exploration of a worker's motivation and capacities, which are crucial for the job that requires specific skills and values (Luken, 2010). In turn, the capacities critical thinking and decision making can be improved by reflection. Improving these can result in a higher level of professionalism (Wald et al., 2012). Social workers are expected to routinely explore their work and to expand their awareness of themselves (Beddoe, 2013), which is why reflection can be beneficial for them. Moniz (2015) adds that reflection improves empathy, communication, collaboration, and advocacy, which are essential skills for social workers. However, students often have difficulties in fulfilling the goals they are trying to reach with reflection (Benammar, 2005), because they evaluate experiences, but do not identify the meaning behind it.

Through reflection, individuals relate experiences to their own knowledge and feelings, and are willing and able to integrate what is socially relevant into their images of themselves as professionals (Korthagen, 2001). Students therefore are able to use reflection as a tool to get from a mere understanding to explicit knowledge in their specific field (Alsina et al., 2017). In this way, abstraction of thinking processes can be increased to a higher level (Benammar, 2005). For example, Korthagen (2001) described the reflective process in five phases: 1) action or

experience, 2) re-viewing the action, 3) raising awareness and identifying important aspects of the specific activity or event, 4) looking for alternatives, and 5) testing alternatives in a new situation. This matches Brookfield (2009), who defines critical reflection as taking different perspectives in analysing a specific situation and aiming for alternatives regarding the understanding of and the own behaviour in the situation. For Kember et al. (2000), the individual can reach four reflection levels. Starting with unconscious action, which is considered the lowest level, the second level is understanding, followed by reflection, the third highest level and as the highest level, critical reflection.

The highest level of reflection goes beyond the systematic approach and questions as well as reframes an individual's level of functioning, like his identity (Korthagen & Vasalos, 2005). Critical reflection is understood as the exploration of alternative actions, and reflection on (past) assumptions and future behaviour is central (Kember et al, 2000). The NARRA (Rubric for Narrative Reflection Assessment) method is based on the rubrics of Alsina et al. (2017) and contains Kember's four reflection levels. This method is suitable for the acquisition of the highest level of reflection, which is critical reflection, together with a reconstruction or transformation of prior knowledge (Alsina et al., 2017). It was constructed for both assessment and instruction in four main categories: focus of reflection, the initial belief system, inquiry about focus of reflection (through questions and hypotheses) and rebuilding the belief system to empower new goals and new actions in order transform prior knowledge (Alsina et al., 2017).

ADDED VALUE OF AUTOBIOGRAPHICAL REFLECTION

Reflection can be enhanced through the construction of narratives, which enable a better understanding of experiences and feelings (Lengelle, Meijers, Poell, & Post, 2013). Autobiographical reflection includes looking for meaning in the individual's life experience by creating stories or narratives (Spector-Mersel, 2017). When a narrative about an experience or memory is created, its reflection is the following step. Here, the connection is made between the experience and the meaning for the identity or PI of the individual. This is also, why autobiographical reflection can be defined as a structured evaluation (Westerhof, Bohlmeijer, & Webster, 2010). According to Spector-Mersel (2017), autobiographical reflection is able to generate more insight in significant past experiences and decisions, which might had an influence on the development of who a person is at the present moment.

The retrieval of those past experiences from an individual's memory is called reminiscence. Several authors described the act of remembering as a key process in development from early to late adulthood (Thorne, 2000; Webster, 1993). Current evidence suggests that reminiscence is an important process in regulating individual development throughout the lifespan (Westerhof, Bohlmeijer & Webster, 2010). Bluck and Levine (1998, p. 188) define it: "*Reminiscence is the volitional or non-volitional act or process of recollecting memories of one's self in the past. It may involve the recall of particular or generic episodes that may or may not have been previously forgotten, and that are accompanied by the sense that the remembered episodes are veridical accounts of the original experiences. This recollection from autobiographical memory may be private or shared with others.*" Like the definition suggests, reminiscence can serve different functions. A positive one is identity. Through reminiscence, memories are actively used to develop an individual's identity by discovering, clarifying and crystallizing important dimensions of the sense of who we are (Webster, 1993). Autobiographical reflection, compared to critical reflection, is therefore more involved in personal meaning making.

As already stated above, meaning making is important in constructing a strong PI. While critical reflection focuses more on the evaluation of a specific event or behaviour with the goal of improving the actions of the individual and then looking for what can be improved, autobiographical reflection focuses on narratives about past experiences, which strengthen the PI to adapt future actions. Autobiographical reflection can contribute to a better intrinsic motivation of students to reflect on and construct their PI, because the narrative involves the students emotionally (Moenandar & Huisman, 2015). Thus, autobiographical reflection can help students to benefit their society in a meaningful way, which is confirmed by Lengelle et al. (2013).

Bohlmeijer and Westerhof (2010) suggest that autobiographic narratives should be created to organize and make meaning of past experiences to strengthen the identity. Experiences that create a challenge for one's sense of self are more likely to be transformed into a narrative (Pals, 2006). Those characteristics, that increase the likelihood of an experience to be storied, in turn, might also increase the likelihood that this experience is involved in the construction of the individual's PI (Marín, Tur, & Challinor, 2018). Creating a narrative might help individuals take another perspective (Marín, Tur, & Challinor, 2018). This means, challenging memories are integrated in a more meaningful narrative, which can stimulate the retrieval of positive memories (Bohlmeijer, Westerhof, & Emmerik-de Jong, 2008). Therefore,

taking another perspective by using autobiographical reflection might contribute to the resolving of negativity.

According to the research of Lyubomirsky, Sousa and Dickerhoof (2006), creating narratives of negative events is beneficial for one's well-being, because from the experience to its later retelling, negative emotion tends to decrease if insights are created, thus individuals are able to cope better in difficult situations and meaning is given to the experiences. The creation of a narrative as part of the autobiographical reflection method, creates more distance between the individual and the past experience, which improves self-perception, well-being and personal growth.

PERSUASIVE TECHNOLOGY

Reflection is not intuitive and while students need to be able to reflect in order to make progress and learn from their past in favour of their future professional behaviour, reflection has to be learned (Rooney, 2003). A modern way to do this is via a blended learning (BL) course. In the article of Engelbertink, Kelders, Woudt-Mittendorff and Westerhof (under review), BL courses are defined as instruction that combines traditional face-to-face lessons with online lessons at a different moment in time. The online element of a BL course can include multiple strategies to support student learning, and one of them is the use of persuasive technology (PT). Van Gemert-Pijnen, Kelders, Kip, and Sanderman (2018) define PT as "*technology that aims to reinforce, change, shape or influence behavior and attitudes by being compelling and without being coercive or deceptive*" (p. 339). The combination of persuasive technology with blended learning is rather new in the educational field of social work (Engelbertink, Kelders, Woudt-Mittendorff & Westerhof, under review). Oinas-Kukkonen created four major categories of persuasive features: Primary Task Support, Dialogue Support, Credibility Support, and System Support, in order to support the design of persuasive systems and technologies (Oinas-Kukkonen & Harjumaa, 2009). Those categories help to create online courses that use persuasive elements. In this study, a BL course will be evaluated based on its perceived persuasiveness, to investigate the effect it has on the reflection of the students.

THIS STUDY

Based on the literature review above, it can be assumed that autobiographical reflection adds value to the construction of a PI in a population of social work students. Therefore, this study aims to investigate if the method of autobiographical writing is of added value to the construction of PI in social work students, compared to critical reflection (NARRA). Both methods will be compared regarding their processes of PI, their effect on the well-being of the students, their reminiscence functions, their level of reflection (according to Kember) and their perception of the persuasive technology. This results in the following five hypotheses:

H1 - Over time, autobiographical reflection affects in-depth exploration, identification with commitment, affirmation, and practices more and reconsideration of commitment less than critical reflection.

H2 - Over time, autobiographical reflection increases well-being more than critical reflection.

H3 - Over time, autobiographical reflection increases reminiscence functions more than critical reflection.

H4 – Using autobiographical reflection results in a higher level of reflection than critical reflection.

H5- There is a difference of persuasiveness of the online learning environment between using and not using persuasive technology on autobiographical reflection.

3. METHODS

Design

The study compared two blended learning methods, a critical reflection method and an autobiographic writing method, on developing a strong PI of social work students. Furthermore, the influence of online persuasive technology was investigated. To explore this, a randomized-controlled trial was done where a blended learning course was implemented in the study year of second year Dutch social work students.

This was tested in three different conditions. Every condition received eight lessons and had to complete four assignments via the online Learning Management System Blackboard. The first condition included eight study groups which received lessons on the critical reflection method. The second condition included four study groups which received lessons on both the NARRA method (4 lessons) as well as the autobiographical reflection method (4 lessons). The third condition included five study groups and resembles the second condition, but here the online system included persuasive technology, which is based on the PSD model of Oinas-Kukkonen (Oinas-Kukkonen & Harjumaa, 2009) (table 1). Functions of persuasive technology that were added to the BL course were for example the sound of applause or personalized elements. For a full overview of the used persuasive technology elements, view Appendix A and B.

There were three measurement points in this study to examine the effects over time, a t0 in January 2018, t1 in May 2018, and t2 in July 2018. T0 was done when the students had followed the first three NARRA lessons. T1 was done after the students had followed the next five lessons. For condition 1 these were five more NARRA lessons and condition 2 and 3 received four autobiographical lessons instead, as well as the fourth NARRA lesson. This means, when t1 was conducted, all students had participated in all eight lessons. T2 was done eight weeks later, when there were no more lessons for the students.

The NARRA (Rubric for Narrative Reflection Assessment) method stimulates the acquisition of the highest level of reflection: critical reflection (Alsina, 2017). It is based on the rubrics of Alsina et al. (2017) and contains Kember's four reflection levels: unconscious action, understanding, reflection and critical reflection.

The autobiographical writing method relates to the program 'Uit je verhaal' ('Tell your story') that is constructed to make students aware of and strengthen professional identity through narratives (Engelbertink, Wijering, Bohlmeijer, & Westerhof, 2019). The method is based on Bohlmeijer and Westerhof's (2012) 'The story we lived by'. Students learn to reflect with nuances and to take different perspectives regarding their past experiences.

Table 1. *Overview of study conditions*

	groups	n	Lesson structure	Assignments
Condition 1	8	117	8 lessons NARRA	4 online assignments

Condition 2	4	58	4 lessons NARRA+ 4 lessons Autobiographic Reflection	4 online assignments without persuasive technology
Condition 3	5	68	4 lessons NARRA + 4 lessons Autobiographic Reflection	4 online assignments with persuasive technology

Participants

The study included in total 244 Dutch second year social work students from study year 2017/18. There were 17 study groups who were divided over three conditions (table 2). The number of students in each study group varied from 12 to 17 students. During the t0 measurement, there were 117 students in condition 1, 58 students in condition 2 and 68 students in condition 3. Due to drop-outs after this measure, t1 and t2 included 221 students. The drop-outs were caused by students who left or changed the study course. During the t1 and t2 measurement, condition 1 included 107 students, condition 2 included 54 students and condition 3 included 60 students. Analyses showed no significant differences regarding gender and age. Overall, more women than men participated in every condition and in every measure point of the study. For all measure points the mean age was about 21 years (min. age 17 – max. 30; SD=2.3).

There were only 60 participants who filled out the questionnaires at all three measure points. This means, that the rest of the participants missed at least one of the measurements during the study. Analyses showed that gender and age is not connected to the participation in all three measure points. Because n=60 does not have enough statistical power, it was decided to analyse the data of all participants who filled in the questionnaires. This resulted in different response rates for each measurement. For the t0 measurement the response rate was approximately 85% (15% male, 85% female). In the t1 measurement the response rate was approximately 75% (16% male, 84% female). And it dropped for the t2 measurement to approximately 34% (13% male, 87% female). The drop to 34% can be explained by the fact that no more study lessons did take place at this point of time.

Table 2. Descriptive statistics per measure point and condition.

	t0	t1	t2
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Condition 1				
	<i>n (%)</i>	87(46%)	70 (42%)	35 (47%)
	<i>Gender</i>	75 (86%) female 12 (14%) male	61 (87%) female 9 (13%) male	31(89%) female 4 (11%) male
Condition 2				
	<i>n (%)</i>	46 (25%)	42 (26%)	19 (25%)
	<i>Gender</i>	41 (89%) female 5 (11%) male	37 (88%) female 5 (12%) male	16 (84%) female 3 (16%) male
Condition 3				
	<i>n (%)</i>	54 (29%)	53 (32%)	21 (28%)
	<i>Gender</i>	43 (80%) female 11 (20%) male	41 (77%) female 12 (23%) male	16 (76%) female 3 (24%) male
Total				
	<i>n (%)</i>	187* (77%)	165** (75%)	75** (34%)
	<i>Gender</i>	159 (85%) female 28 (15%) male	139 (84%) female 26 (16%) male	65 (87%) female 10 (13%) male

Note: *response of the initial 244 participants; **response of the 221 participants after the drop-out.

Procedure

Participation in the study was voluntary. An informed consent was provided which informed the participants over the study, ethics and the anonymity of their data. The study was approved by the Ethics Committee of the University of Twente. For each class, there was one student who was added as mobile contact by the researcher and who then sent the survey link to a WhatsApp group consisting of the particular class. Therefore, absent students were also able to complete the survey in the administration week. Questions regarding the survey were able to be answered by the researcher, who accompanied the lesson. The researcher reached out after three days to the contact person via WhatsApp in order to forward a reminder message to the class. Qualtrics was used to collect the data.

Measures

Three questionnaires were conducted on all three measurements and two extra questionnaires were conducted on the second measurement (t1) (table 3). Each questionnaire was used to measure a different construct: PI, well-being and reminiscence functions (t0, t1, and t2) and level of reflection and perceived persuasiveness (both additional for t1).

Table 3. *Overview of the conducted questionnaires per condition and measure point*

	PISQ			MHC-SF			RFS			Kember			PPQ		
	t0	t1	t2	t0	t1	t2	t0	t1	t2	t0	t1	t2	t0	t1	t2
Condition 1	x	x	x	x	x	x	x	x	x		x				
Condition 2	x	x	x	x	x	x	x	x	x		x			x	
Condition 3	x	x	x	x	x	x	x	x	x		x			x	

Professional Identity

Professional Identity was measured using the five-dimensional *Professional Identity Status Questionnaire* (PISQ-5d) which was developed by Mancini et al. (2015). A Dutch version was created to ensure language proficiency and reliable results. In consultation with the authors, the items were translated to Dutch and backwards into English in order to get a Dutch version that is equivalent to the English one. The PISQ-5d includes 20 items: ten items with a 5-point Likert-scale ranging from 1 = ‘not at all’ till 5 = ‘very much’ and ten items from 1 = ‘never’ to 5 = ‘all the time’. The questionnaire includes five subscales à four items. The subscales *In-depth exploration*, *Identification with commitment*, *Reconsideration of commitment* focus on the identity of social workers and the subscales *Affirmation* and *Practices* focus on the professional identity of social workers. Item 17 of the subscale ‘In-depth exploration’ was changed due to the suggestion of Mancini et al. (2015) to a more cognitive focus instead of a focus on social comparison. The new item is: “Do you think about what other people think or say about social workers?” Other sample items are: Does thinking of yourself as a social worker make you feel self-confident? (*Identification with commitment*); Do you ever think that choosing a different profession would make your life more interesting? (*Reconsideration of commitment*); Are you looking forward to becoming a social worker? (*Affirmation*); Do you ever seek information about the different job options that a degree in social work may offer? (*Practices*). Respectively, Cronbach’s alphas were .46, .74, .86, .76, and .63 for the subscales.

Well-being

The *Mental Health Continuum- Short Form* (MHC-SF) (Lamers, Westerhof, Bohlmeijer, ten Klooster, & Keyes, 2011) was used to measure the degree of a person's positive mental health. The scale consists of 14 items which are divided into three subscales: *emotional* (3 items), *psychological* (5 items), and *social well-being* (6 items). All items begin with 'In the past month, how often did you feel...'. There is a 6-point Likert scale ranging from 1 = 'Never' to 6 = 'Every day'. Included items are: ...that you were happy (*emotional well-being*); ... that our society gets better for people (*psychological well-being*); ...that you had warm and trusted relationships with others (*social well-being*). Cronbach's alphas was .89 for the total score and respectively, .83, .69, .84 for the subscales.

Reminiscence

The subscale *Identity* of the *Reminiscence Functions Scale* (RFS) was used to measure reminiscence functions regarding identity (Webster, 1993). This subscale examined the degree of reflection in order to strengthen current identity formation. It includes six items with a response scale ranging from 1 = never to 6 = very frequently. Every item begins with the words 'When I look back on my life it is'. A sample item is: "When I look back on my life it is ... because memories from my past help me determine who I am today.". Cronbach's alpha was .81.

Critical Reflection

Kember's Reflective Thinking Questionnaire was used to measure the student's level of reflection that they reached after following the reflection method lessons and doing the homework assessments. In this study, only the two subscales *reflection* (5 items) and *critical reflection* (4 items) were used, as outcome measure of the two reflection methods. The 5-point Likert-scale ranges from 1=total disagreement to 5=total agreement. An item of the *reflection* subscale is: "Through POW you need to think about the things you learn." And an item of the *critical reflection* subscale is: "Because of POW I am looking in a different way on myself." (Kember et al., 2000). Cronbach's alpha for the subscale reflection was .75 and for the *critical reflection* subscale .75.

Persuasiveness

The Persuasive Potential Questionnaire (PPQ) was used to measure the impact of the added persuasive elements in condition 3. It consists of 18 items and is divided into six subscales: *task* (3 items), *dialogue* (4 items), *reliability* (4 items), *social support* (1 item), and *perceived*

persuasiveness (3 items). It was decided to not use the subscale *perceived effort* (3 items) because the Cronbach's alfa was too low, thus only five subscales were used. Answers were given on a 7-point Likert-scale ranging from 1=total agreement to 7=total disagreement. Sample items are: "The online module supported me with writing up my autobiography.", "The online module stimulated me.", and "The online module made me conscious of my professional identity." (Oinas-Kukkonen & Harjumaa, 2009). Cronbach's alphas were .92 for the total scale and respectively, .71 (*task*), .75 (*dialogue*), .80 (*reliability*), and .85 (*perceived persuasiveness*) for the subscales. As can be seen, there is no Cronbach's alpha for the *social support* subscale, because it consists of only one item.

Analyses

SPSS24 was used for all data analyses. First, the normal distribution of the data was tested with the Shapiro-Wilk test and was found to be normally distributed. Second, to test the Hypotheses 1-3, repeated measure analyses of variance (ANOVA) were conducted to examine possible differences between the three conditions over time. Therefore, there were two independent variables: *conditions* (between-groups) and *time* (within-groups), and additionally an interaction between those two (*conditions*time*). The outcomes on the PISQ-5d, MHC-SF, and RFS were the dependent variables. The analyses for each scale were run one time to test the possible differences between t0 and t1 and one time between t0 and t2 in order to include as many participants in the study as possible. This was done, because there was a large nonresponse at t2. Third, a univariate analysis of variance (ANOVA) was conducted to examine possible differences between the three, to test hypothesis four. To test the requirement of the univariate variance analysis, that all standard deviations are the same, the Levene test was conducted and was found to be non-significant for the scale, which means that the requirement is true and all standard deviations in all conditions were the same. Lastly, a t-test was conducted to test hypothesis 5.

4. RESULTS

The results of this study are in the same order as the hypotheses. This means, first, the results of the repeated measure ANOVA analyses will be displayed for hypotheses 1-3, then the results of the univariate variance analysis, which tested the fourth hypothesis, and finally the results of the t-test for the fifth hypothesis.

H1

The first hypothesis was: Over time, autobiographical reflection affects in-depth exploration, identification with commitment, affirmation, and practices more, and reconsideration of commitment less than critical reflection. The results showed that there was a significant interaction effect for the *in-depth exploration* scores, $F(2,134) = 4.00$, $p = .02$, $\eta p^2 = .06$, between the t0 and the t1 measurement. This means, that there were significant differences across time between the conditions. The interaction effect for *in-depth exploration* between the t0 and the t2 measure was found to be non-significant. These results can be further explained through the means shown in tables 4b and 4c. While the in-depth exploration scores of conditions 1 ($m_{t0} = 3.08$, $m_{t1} = 2.93$) and 2 ($m_{t0} = 2.92$, $m_{t1} = 2.86$) decreased over time (t0 and t1), it increased significantly for condition 3 ($m_{t0} = 3.00$, $m_{t1} = 3.18$). However, both condition 2 and 3 received autobiographical writing lessons, so autobiographical writing is not the significant factor of influence here. This is, why the between-group effect was non-significant as well as the time effect, while the interaction effect was significant.

All other interaction effects (*identification of commitment, reconsideration of commitment, affirmation, and practices*) were found to be not significant for H1 (table 4a), so it can be concluded that H1 is rejected.

Further analyses indicated a significant time effect for *practices* between the t0 and t2 measure, $F(1,60) = 5.90$, $p = .02$, $\eta p^2 = .09$ (table 4a). The time effect for *practices* between t0 and t1 was not significant, $F(1,134) = 1.35$, $p = .25$, $\eta p^2 = .01$. As can be seen in Table 4a, this indicates, that the participation in the reflection courses did have a positive effect for the students regarding their preparing practices towards their future job field after the course was finished. All other time effects were not significant as well (*in-depth exploration, identification of commitment, reconsideration of commitment, and affirmation*).

The results of the analyses showed that all between-groups effects were not significant. That means, that the different conditions did not significantly differ from each other regarding the effect on *in-depth exploration, identification of commitment, reconsideration of commitment, affirmation, and practices*.

Table 4a. Repeated measures ANOVA interaction, time and group effect results of the PISQ-5d subscales for both the t0 and t1 measurement and the t0 and t2 measurement analyses.

	t0 and t1 measurement				t0 and t2 measurement			
	<i>Df</i>	<i>F</i>	<i>Sig.</i>	<i>Partial Eta squared</i>	<i>df</i>	<i>F</i>	<i>Sig.</i>	<i>Partial Eta squared</i>
In-depth exploration								
Interaction effect	2,134	4.00	.02*	.06	2,60	3.20	.08	.03
Time effect	1,134	.04	.84	.00	1,60	.85	.44	.05
Group effect	2,134	1.05	.35	.02	2,60	.61	.55	.02
Identification with commitment								
Interaction effect	2,135	.08	.92	.00	2,60	.68	.51	.02
Time effect	1,135	.80	.37	.01	1,60	.03	.86	.00
Group effect	2,135	1.67	.19	.02	2,60	.07	.93	.00
Reconsideration of commitment								
Interaction effect	2,134	1.40	.25	.02	2,60	.05	.95	.00
Time effect	1,134	.03	.86	.00	1,60	2.61	.11	.04
Group effect	2,134	.84	.43	.01	2,60	.18	.84	.01
Affirmation								
Interaction effect	2,135	1.27	.28	.02	2,60	1.74	.18	.06
Time effect	1,135	.08	.78	.00	1,60	.06	.82	.00
Group effect	2,135	.39	.68	.01	2,60	.12	.89	.00
Practices								
Interaction effect	2,134	.39	.68	.01	2,60	1.42	.25	.05
Time effect	1,134	1.35	.25	.01	1,60	5.90	.02*	.09
Group effect	2,134	1.61	.21	.02	2,60	.93	.40	.03

Note. *p<.05; **p<.01

Table 4b. Means of the Repeated measures ANOVA of the PISQ-5d subscales for the t0 and t1 measurement.

	Condition 1	Condition 2	Condition 3	Total
	<i>Mean (Std.)</i>	<i>Mean (Std.)</i>	<i>Mean (Std.)</i>	<i>Mean (Std.)</i>
In-depth exploration				
<i>t0</i>	3.08 (.67)	2.92 (.71)	3.00 (.71)	3.01 (.69)

<i>t1</i>	2.93 (.63)	2.86 (.67)	3.18 (.60)	2.99 (.64)
Identification with Commitment				
<i>t0</i>	3.58 (.57)	3.64 (.79)	3.44 (.63)	3.55 (.65)
<i>t1</i>	3.65 (.58)	3.70 (.73)	3.45 (.68)	3.60 (.66)
Reconsideration of Commitment				
<i>t0</i>	2.20 (.81)	2.21 (.85)	2.28 (.82)	2.23 (.86)
<i>t1</i>	2.15 (.85)	2.10 (.88)	2.41 (.87)	2.22 (.86)
Affirmation				
<i>t0</i>	3.95 (.61)	3.91 (.78)	3.94 (.54)	3.94 (.63)
<i>t1</i>	4.06 (.65)	3.87 (.76)	3.91 (.64)	3.97 (.67)
Practices				
<i>t0</i>	2.82 (.71)	2.61 (.75)	2.56 (.65)	2.68 (.71)
<i>t1</i>	2.82 (.69)	2.71 (.76)	2.64 (.66)	2.74 (.70)

Note. * $p < .05$; ** $p < .01$

Table 4c. Repeated measures ANOVA means of the PISQ-5d for the *t0* and *t2* measurement.

	Condition 1	Condition 2	Condition 3	Total
	<i>Mean (Std.)</i>	<i>Mean (Std.)</i>	<i>Mean (Std.)</i>	<i>Mean (Std.)</i>
In-depth exploration				
<i>t0</i>	3.02 (.70)	3.03 (.70)	3.12 (.79)	3.05 (.71)
<i>t2</i>	2.86 (.70)	2.75 (.74)	3.12 (.67)	2.90 (.71)
Identification with Commitment				
<i>t0</i>	3.54 (.63)	3.58 (.73)	3.41 (.74)	3.52 (.69)
<i>t2</i>	3.53 (.59)	3.45 (.87)	3.51 (.58)	3.50 (.66)
Reconsideration of Commitment				
<i>t0</i>	2.23 (.90)	2.23 (.96)	2.38 (.80)	2.27 (.88)
<i>t2</i>	2.13 (.71)	2.11 (.95)	2.24 (.75)	2.15 (.77)
Affirmation				
<i>t0</i>	3.94 (.60)	3.95 (.79)	3.75 (.59)	3.89 (.64)
<i>t2</i>	3.87 (.57)	3.91 (.84)	3.91 (.59)	3.89 (.64)
Practices				
<i>t0</i>	2.91 (.55)	2.61 (.81)	2.63 (.62)	2.76 (.65)*
<i>t2</i>	2.93 (.63)	2.81 (.59)	2.85 (.31)	2.88 (.55)*

Note. * $p < .05$; ** $p < .01$

H2

The second hypothesis was: Over time, autobiographical reflection increases well-being more than critical reflection. Based on the results of the repeated measure ANOVA, no significant interaction effects were found for the total MHC-SF, as well as the three subscales, neither for the t0 and t1 measurement analysis, nor for the t0 and t2 analysis (table 5a).

Further analyses showed that for the social well-being subscale, there was a significant time effect, $F(1,133) = 4.97, p = .03, \eta p^2 = .04$ (t0 and t1). This effect is also found to be significant for the t0 and t2 analysis, $F(1,60) = 11.13, p < .01, \eta p^2 = .16$. Another significant time effect was found for the MHC-SF in total, $F(1,60) = 4.72, p = .03, \eta p^2 = .07$, between the t0 and t2 measure, but not for the t0 and t1 measure, $F(1,133) = 2.02, p = .16, \eta p^2 = .02$ (table 5a). These results indicate that participation in the reflection courses did have a positive effect on the social and overall well-being of the students. Furthermore, there were no more significant time effects found for both the emotional and psychological well-being subscales (table 5a).

There were no significant between-groups effects for the total MHC-SF as well as the subscales. This means that both methods did not significantly differ from each other regarding their effect on the well-being of the social work students.

Table 5a. Repeated measures ANOVA interaction, time and group effect results of the MHC-SF for both the t0 and t1 measurement and the t0 and t2 measurement analyses.

	t0 and t1 measurement				t0 and t2 measurement			
	<i>df</i>	<i>F</i>	<i>Sig.</i>	<i>Partial Eta- squared</i>	<i>df</i>	<i>F</i>	<i>Sig.</i>	<i>Partial Eta- squared</i>
Well-being								
Interaction effect	2,133	.49	.62	.01	2,60	2.83	.07	.09
Time effect	1,133	2.02	.16	.02	1,60	4.72	.03*	.07
Group effect	2,133	.39	.68	.01	2,60	.59	.56	.02
Emotional well-being								
Interaction effect	2,133	.32	.73	.01	2,60	2.35	.11	.08
Time effect	1,133	.42	.52	.00	1,60	.28	.60	.01

Group effect	2,133	.27	.77	.00	2,60	.43	.66	.01
Social well-being								
Interaction effect	2,133	.47	.63	.01	2,60	1.33	.27	.04
Time effect	1,133	4.97	.03*	.04	1,60	11.13	.00**	.16
Group effect	2,133	.24	.79	.00	2,60	1.46	.24	.05
Psychological well-being								
Interaction effect	2,133	.45	.64	.01	2,60	2.17	.12	.07
Time effect	1,133	.14	.71	.00	1,60	2.41	.13	.04
Group effect	2,133	.57	.57	.01	2,60	.23	.79	.01

Note. *p<.05; **p<.01

Table 5b. Repeated measures ANOVA means of the MHC-SF for the t0 and t1 measurement.

	Condition 1	Condition 2	Condition 3	Total
	<i>Mean (Std.)</i>	<i>Mean (Std.)</i>	<i>Mean (Std.)</i>	<i>Mean (Std.)</i>
Well-Being				
<i>t0</i>	3.87 (.70)	3.75 (.91)	3.86 (.85)	3.84 (.80)
<i>t1</i>	4.00 (.62)	3.86 (.88)	3.86 (.77)	3.92 (.73)
Emotional Well-being				
<i>t0</i>	4.33 (.97)	4.25 (.98)	4.26 (.94)	4.29 (.96)
<i>t1</i>	4.38 (.80)	4.38 (1.02)	4.23 (.76)	4.33 (.84)
Social well-being				
<i>t0</i>	3.29 (.75)	3.15 (1.03)	3.30 (.90)	3.26 (.97)*
<i>t1</i>	3.48 (.81)	3.38 (1.04)	3.36 (1.01)	3.42 (.93)*
Psychological Well-Being				
<i>t0</i>	4.13 (.85)	4.01 (.98)	4.13 (.97)	4.10 (.92)
<i>t1</i>	4.24 (.74)	4.00 (.94)	4.10 (.87)	4.14 (.83)

Note. *p<.05; **p<.01

Table 5c. Repeated measures ANOVA means of the MHC-SF for the t0 and t2 measurement.

	Condition 1	Condition 2	Condition 3	Total
	<i>Mean (Std.)</i>	<i>Mean (Std.)</i>	<i>Mean (Std.)</i>	<i>Mean (Std.)</i>
Well-Being				
<i>t0</i>	4.00 (.71)	3.67 (1.04)	3.53 (.97)	3.79 (.88)*

<i>t2</i>	3.94 (.77)	3.88 (1.02)	3.95 (.77)	3.93 (.83)*
Emotional Well-being				
<i>t0</i>	4.44 (.99)	4.27 (1.12)	3.88 (1.09)	4.25 (1.06)
<i>t2</i>	4.19 (1.04)	4.35 (1.27)	4.25 (.89)	4.25 (1.05)
Social well-being				
<i>t0</i>	3.44 (.75)	2.96 (1.05)	2.98 (1.00)	3.19 (.92)**
<i>t2</i>	3.56 (.84)	3.26 (.90)	3.41 (.81)	3.44 (.84)**
Psychological Well-Being				
<i>t0</i>	4.24 (.88)	3.95 (1.12)	3.82 (1.11)	4.06 (1.01)
<i>t2</i>	4.14 (.81)	4.16 (1.15)	4.25 (.91)	4.17 (.92)

Note. *p<.05; **p<.01

H3

The third hypothesis was: Over time, autobiographical reflection increases reminiscence functions more than critical reflection. The results regarding the reminiscence functions indicated no significant interaction effects, for both the *t0* and *t1* analysis, $F(2,133) = .92$, $p = .40$, $\eta p^2 = .01$, and the *t0* and *t2* analysis, $F(2,60) = 1.91$, $p = .16$, $\eta p^2 = .06$ (table 6a). Based on that, hypothesis 3 is rejected. This result is supported by further analyses, which showed that there were no significant time effects as well as no significant between-groups effects (table 6a).

Table 6a. Repeated measures ANOVA interaction, time and group effect results of the RFS for both the *t0* and *t1* measurement and the *t0* and *t2* measurement analyses.

	t0 and t1 measurement				t0 and t2 measurement			
	<i>df</i>	<i>F</i>	<i>Sig.</i>	<i>Partial Eta-square</i>	<i>df</i>	<i>F</i>	<i>Sig.</i>	<i>Partial Eta-square</i>
Reminiscence Functions								
Interaction effect	2,133	.92	.40	.01	2,60	1.91	.16	.06
Time effect	1,133	1.94	.17	.01	1,60	2.87	.10	.05
Group effect	2,133	.07	.94	.00	2,60	.18	.83	.01

Note. *p<.05; **p<.01

Table 6b. Repeated measures ANOVA means of the RFS for the t0 and t1 measurement.

	Condition 1	Condition 2	Condition 3	Total
	<i>Mean (Std.)</i>	<i>Mean (Std.)</i>	<i>Mean (Std.)</i>	<i>Mean (Std.)</i>
Reminiscence Functions				
<i>t0</i>	4.39 (.66)	4.39 (.78)	4.46 (.70)	4.41 (.70)
<i>t1</i>	4.47 (.59)	4.57 (.83)	4.44 (.64)	4.48 (.67)

Note. * $p < .05$; ** $p < .01$

Table 6c. Repeated measures ANOVA means of the RFS for the t0 and t2 measurement.

	Condition 1	Condition 2	Condition 3	Total
	<i>Mean (Std.)</i>	<i>Mean (Std.)</i>	<i>Mean (Std.)</i>	<i>Mean (Std.)</i>
Reminiscence Functions				
<i>t0</i>	4.40 (.67)	4.21 (.68)	4.41 (.77)	4.35 (.69)
<i>t2</i>	4.35 (.74)	4.58 (.83)	4.56 (.50)	4.47 (.71)

Note. * $p < .05$; ** $p < .01$

H4

The fourth hypothesis was: ‘Autobiographical reflection results in a higher level of reflection than critical reflection.’. The results of the one-factor variance analysis indicated that there was a significant difference between the three conditions for *critical reflection*, $F = 4.21$, $p = .02$. The results for reflection, $F = 1.47$, $p = .06$, showed no significant difference. The means in table 7 show that condition 2 scored significantly higher on critical reflection compared to condition 1 and 3. For H4 to be true, the scores of condition 3 should be also higher than for condition 1, which they are not. This means, that hypothesis 4 needs to be rejected.

Table 7. Univariate ANOVA results for Kember’s levels of reflection

	Condition 1	Condition 2	Condition 3
	<i>Mean (Std.)</i>	<i>Mean (Std.)</i>	<i>Mean (Std.)</i>
Reflection	3.35 (.55)	3.53 (.45)	3.38 (.62)
Critical reflection	3.09 (.68)*	3.38 (.50)*	3.03 (.61)*

Note. * $p < .05$; ** $p < .01$

H5

The fifth hypothesis was: ‘There is a difference of persuasiveness of the online learning environment between using and not using persuasive technology on autobiographical reflection’. The results of the t-test showed that the two-sided significance for the total PPQ, as well as all five subscales, was $p > .05$, which indicated, that the scores from condition 2 did not significantly differ from the scores of condition 3. Therefore, the hypothesis is rejected.

Table 8. T-test results for PPQ and its subscales.

	Condition 2	Condition 3	T-Test		
	<i>Mean (Std.)</i>	<i>Mean (Std.)</i>	<i>T</i>	<i>df</i>	<i>Sig. (2-sd)</i>
PPQ	4.57 (.90)	4.75 (.91)	-.747	63	.458
Task	4.67 (1.14)	4.81 (1.11)	-.449	63	.655
Dialogue	4.37 (1.04)	4.44 (1.14)	-.258	63	.797
Reliability	4.85 (.96)	4.84 (.90)	.016	63	.987
Social support	4.12 (1.55)	4.54 (1.47)	-1.071	63	.288
Perceived persuasiveness	4.40 (1.12)	4.76 (1.19)	-1.237	63	.221

Note. * $p < .05$; ** $p < .01$

5. Discussion

The study examined the potential of autobiographical writing to construct a PI in a population of social work students, compared to critical reflection. Aim of the study was to get insight in the added value of autobiographical writing regarding PI construction, well-being, levels of reflection and reminiscence. Another aim was to explore the perceived persuasiveness of the BL course in context of autobiographical reflection.

All hypotheses were rejected, but there were some significant results found which are worth to be interpreted in the light of recent literature. The results showed that students who received autobiographical writing engaged in more in-depth exploration in the time between the first and second measure, than students who received only critical reflection lessons. In literature is stated that autobiographical reflection stimulates exploration in depth which can be

beneficial for the construction of a PI, if commitment can be reached after the phase of exploration. Reflection often causes insecurities at first and results at a later stage in insight (Kuijpers & Meijers, 2009). It can be assumed that the students showed increased in-depth exploration at time of the second measure, because they were in the middle of their reflection process which can lead to more insecurities, thus more exploration. In the time between the first and the last measure, students who also received autobiographical reflection lessons showed no increased level of in-depth exploration, compared to the students who only received critical reflection lessons. Here, students had already finished their reflection process and might have already received insight about their choice of profession, which might have led to the decrease in exploration.

All other interaction effects regarding the PI construction were non-significant, which led to the rejection of the first hypothesis. In other words, students, who received autobiographical writing courses (condition 2 and 3) were not found to significantly show increased identification of commitment and decreased reconsideration of commitment. They did not affirm their future as a social worker more over time, and they did not deal with more practices to prepare them to become a social worker in the future. However, assuming the explanation from above to be true, one might have expected a significant identification with commitment and decrease of reconsideration of commitment at the last measure. Furthermore, this finding can be explained by Beddoe (2013) who stated that the field of social work has always been a multidisciplinary one which led to difficulties in creating a PI. This means, that it can be especially difficult for social work students to construct and strengthen their PI, because their field of work requires them to adapt their identity to the different requirements and challenges of their job. This struggle might explain the study results because students have not yet settled down in one specific area of social work, but are still in the middle of the exploration of this multidisciplinary field. In other words, students might not yet have decided what specific job they want to do in the future, so it is difficult to construct a PI for all the options they have in the wide range of social work. This result should be further explored in future research.

The study found that the students engaged in more practical activities that supported their choice of work field over time. It is suggested that this is caused by the engagement in the courses that resulted in more behavioural involvement because the students had to deal a great amount of time with reflections and thoughts on their future work.

Hypothesis 2 was ‘Over time, autobiographical reflection increases well-being significantly more than critical reflection.’. The results showed that there were no significant differences in well-being between autobiographical reflection and critical reflection across time. Although this means that the hypothesis is rejected, the analyses showed that the social and overall well-being of the participants increased over time. Thus had the participation in the reflection lessons a positive influence on the (social) well-being of the students. As was already stated in the introduction, reflection helps to take other perspectives that helps to resolve past challenges and negativity (Bohlmeijer, Westerhof, & Emmerik-de Jong, 2008). This resolution could therefore result in better well-being of the students.

The third hypothesis was ‘Over time, autobiographical reflection increases reminiscence functions significantly more than critical reflection.’. The results of this study showed that students who received autobiographical reflection lessons as well, did not reminiscence more than students who had only received the critical reflection lessons. This is contrary to what is stated by Webster (1993), that through reminiscence, memories are actively used to develop an individual’s identity by discovering, clarifying and crystallizing important dimensions of the sense of who we are. Further research should explore this result.

The fourth hypothesis was ‘Autobiographical reflection results in a higher level of reflection than critical reflection.’. The study results showed that students who had received autobiographical and critical reflection lessons without persuasive technology, showed higher scores for critical reflection (the highest reflection level according to Kember) than the students who received lessons over both methods with persuasive technology and the students who only received critical reflection lessons (according to self-reported measurement). Interestingly, participants of condition 3, thus those who received autobiographical writing courses as well but with added persuasive technology, did not show a significant difference from the first condition. This finding is suggested to be further explored by future research, because it is contrary to what is intended by the use of persuasive technology. Actually, with the use of persuasive technology, it is aimed to support the students in their reflections.

There is literature that might contribute to the explanation of the study results. Because reflection is an important and therefore obligatory part in the education of social work students, students of this study probably did not put in the effort in the assignments that is needed to reach a high level of reflection and to create a PI (Tsingos-Lucas et al., 2017), although they received persuasive technology that should have functioned to make the task of reflection more

attractive. For future research it is important to better explain the link between autobiographical connection and PI construction in the method and lessons.

For the last hypothesis ‘There is a difference of persuasiveness of the online learning environment between using and not using persuasive technology on autobiographical reflection’, results indicated that the added persuasive technology did not made a significant difference in attractiveness of the learning environment. Again, those results are contrary to what is aimed for with the use of persuasive technology. A possible explanation for this might be that students of who did not receive persuasive technology, were more motivated in the study, so that no significant differences could be detected in this study between the use and no use of persuasive technology. Additionally, there is the possibility that the chosen persuasive technology was not enough to persuade the students of condition 3. Further research should explore this and investigate what elements of persuasive technology might increase the attractiveness of the learn environment as well as the motivational impact that persuasive technology can have on students (with use of BL courses).

Strengths & Limitation

The study had several strengths and limitations. The strengths will be described first. The research results from above add knowledge about the construction of a PI in social work students through a blended learning course that combines critical reflection, autobiographical reflection and persuasive technology. There is a lack of literature about this combination, as it is relatively new (Engelbertink, Kelders, Woudt-Mittendorff & Westerhof, under review). On the other side, the added value and effects of reflection on becoming teachers and higher education students lacks research as well. This study adds knowledge about the added value of autobiographical reflection in comparison to critical reflection, because it specifically focuses on social work students, who were much less studied. Furthermore, this study is adding knowledge about the use of persuasive technology in a blended learning course. Again, the use of persuasive technology is a much studied object in literature (Fogg, 2002; Oinas-Kukkonen & Harjumaa, 2009). However, there is still a lack of research that focuses on social work students who use a blended learning course (Engelbertink, Kelders, Woudt-Mittendorff & Westerhof, under review).

The findings of this study also have to be seen in light of some limitations. First, the response rates were low for t2 and t3 (see table 2), which might had influenced the results.

There was not enough power to detect significant differences between the conditions. For further research it is recommended to make sure that all students who start with the study also fill in all the questionnaires.

Second, to test the research questions, only self-report questionnaires were given to the participants. To increase the study's validity in future, it is recommended to add objective observations and tests. For example, evaluations of the teachers regarding the reflection reports, e.g. in form of marks, as well as the construction of a PI, e.g. in form of observations, need to be included in the study for a more objective result.

A third limitation is about the treatment integrity of the study. The study included thirteen different teachers. Although they had been trained and used the same powerpoints to make sure that the lessons are standardised, there is no proof that all teachers followed the same line of contents as intended. There might have been deviations and therefore it is recommended to involve less teachers for the study. This shall increase the integrity of the study.

The fourth limitation is about adherence. There was no proof of how attentive the students followed the lessons and how well they followed the instructions regarding their homework assessments. A reason that the students were instructed to work on their assessments outside of the class environment was so that their reflections would not be influenced by their classmates. However, for future studies it is recommended to increase the adherence and motivation, for example by rewards.

Conclusion

This study analysed the potential of the autobiographical writing method in combination with critical reflection, compared to critical reflection alone. It was assumed that autobiographical writing would be of added value to the construction of a PI regarding the processes of PI construction, well-being, reminiscence functions, and level of reflection. Additionally, it investigated if persuasive technology makes a difference in the perceived persuasiveness of students on their online learn environment. Based on the results, it can be concluded that the added value of autobiographical reflection regarding the processes of PI construction, well-being, reminiscence functions, and level of reflection was not found to be significant. The only significant PI process was in-depth exploration. There were also no significant differences between both methods. However, over time the students reported a higher social and overall well-being and they engaged in more profession-related activities. For the effect of persuasive technology can be concluded that its use was not perceived by the students to be more attractive.

For all results, future research is recommended to analyse if the scores were the result of the reflection courses, or if the effects were simply caused by mere chance.

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Appendix

Appendix A

PSD MODEL & APPLIED PERSUASIVE ELEMENTS

Table x Persuasive Systems Design-model (Oinas- Kukkonen & Harjumaa, 2009)

Persuasive Systems Design- model			
Primary Task Support	Dialogue Support	Credibility Support	Social Support
Reduction, Tunneling, Tailoring, Personalization, Self-monitoring, Simulation, Rehearsal.	Praise, Rewards, Reminders, Suggestion, Similarity, Liking, Social role	Trustworthiness, Expertise, Surface credibility, Real-world feel, Authority, Third- party, Verifiability	Social learning, Social comparison, Normative influence, Social facilitation, Cooperation, Competition, Recognition

Table x Primary Task Support and design prototype

1. Primary Task Support		Design Prototype
Reduction	Dividing assignments into themes.	Applied
Tunnelling	Guiding students step-by-step through the assignments.	Applied
	Students can't go on with the next theme if they did not finish the previous one.	Applied
Tailoring	Students can choose from assignments or information. Applied: choosing information.	Applied
Personalisation	Computer speaks to students with their own name.	Applied
	Students can design the online course by themselves, for example, choosing their own background photo, adding a motto.	Not applied <i>due to the software</i>
Self-monitoring	Students can see their own progress.	Applied
Simulation	Students are reminded during the assignments what these can give them.	Applied
Rehearsal	Methods or techniques come back repeatedly.	Applied

Table x Dialogue Support and design prototype

2. Dialogue Support		Design Prototype
Praise	Students receive digital rewards such as compliments, digital awards or applause.	Applied <i>well dosed</i>

Rewards	Students see pictures/symbols, like a star, medal, thumb when they complete a part of the online module.	Applied <i>well dosed</i>
Reminders	Students receive reminders for making online assignments.	Applied
Suggestions	Students can read tips for making the assignments.	Applied
Similarity	Students can read example stories from former students.	Applied
Liking	The layout is attractive.	Applied
Social role	Students can communicate online with fellow students and teachers.	Not applied <i>due to the software</i>

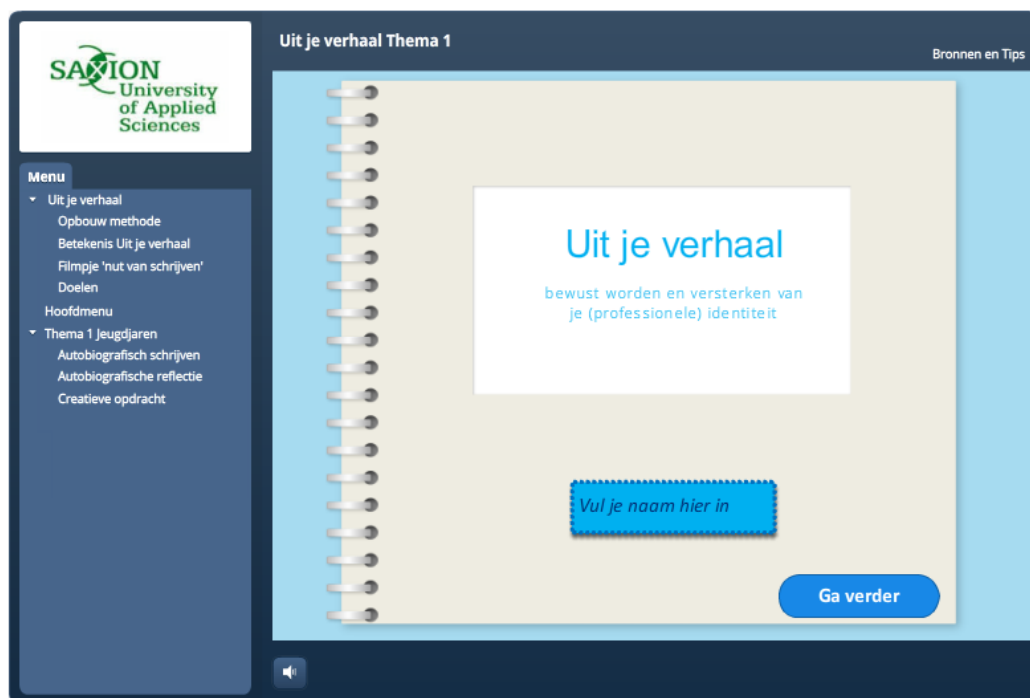
Table x System Credibility Support and design prototype


3. System Credibility Support		Design Prototype
Trustworthiness	The online course exudes reliability and credibility.	Applied
Expertise	The online course exudes expertise and professionalism.	Applied
Surface credibility	The online course must look competent and good at first sight. E.g. information about privacy policy.	Applied
Real-world feel	Information about the author and developer of the method / online course gives the feeling that there is a real world behind the method.	Applied
Authority	Is the method /online module associated with a quality mark? Are there national requirements about the method / online module?	Applied
Third-party endorsements	Is information about the method / online module available via external sources (other websites or other teaching methods)? Controllable? Is the method embedded in another method? Does it link with other methods?	Applied
Verifiability	The sources that the online course uses can be checked.	Applied

Table x Social Support and design prototype

4. Social Support		Design Prototype
Social learning	Students gain insight into what the online course delivers to others (what has it brought them in their development?).	Not applied <i>due to the software</i>
Social comparison	Students can view the progress of other students online.	Not applied
Normative influence	Use peer pressure to change behaviour. Show a graph of students who have completed their homework every week or completely (disadvantage if the majority did not make the assignment, the student thinks: oh they have not finished it yet).	Not applied
Social facilitation	Receive online feedback from fellow students and teachers.	Not applied
Cooperation	Collaborate with fellow students in the online course.	Not applied <i>But facilitated in peer group</i>
Competition	In addition to natural drive to work together, people also have a natural drive to compete with each other. You can compete per class or per subgroup who fully completed the homework in the time that precedes it.	Not applied
Recognition	Example stories of students who have also achieved the behaviour. E.g. by reading <i>fictive or anonymous</i> quotes from students who have also completed the teaching method (both focused on autobiographical reflection and focused on persuasive technology).	Not applied

Appendix B





Uit je verhaal Thema 1

Bijlagen

Menu

- Uit je verhaal
- Opbouw methode
- Hoofdmenu
- vragen autobiografisch schrijven
- vragen autobiografische reflectie

Uit je verhaal

Thema 1 Jeugdijaren


bewust worden en versterken van je (professionele) identiteit

In deze module vind je een inleiding op de methode autobiografisch schrijven en schrijfp opdrachten van thema 1 Jeugdijaren (0- 18 jaar).

De methode Uit je verhaal helpt je om op het niveau van kritische reflectie te komen (adhv NARRA reflectie instrument leerlijn 8.2).

Inleiding 1

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Uit je verhaal Thema 1

Bronnen en Tips

Menu

- Uit je verhaal
 - Opbouw methode
 - Betekenis Uit je verhaal
 - Filmpje 'hut van schrijven'
 - Doelen
- Hoofdmenu
- Thema 1 Jeugdijaren
 - Autobiografisch schrijven
 - Autobiografische reflectie
 - Creative opdracht

Uit je verhaal

Thema 1 Jeugdijaren

bewust worden en versterken van je (professionele) identiteit

Welkom Anna


In deze module vind je een inleiding op de methode autobiografisch schrijven en schrijfp opdrachten van thema 1 Jeugdijaren (0- 18 jaar).

Autobiografisch schrijven kan helpen in de bewustwording of versterking van je identiteit en je professionele identiteit. Daarnaast helpt het je om kritisch te reflecteren mbv de NARRA (reflectie instrument leerlijn 8.2).

Succes namens de POW docenten

Inleiding 1




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Uit je verhaal Thema 1
Bijlagen

Menu

- Uit je verhaal
 - Opbouw methode
 - Hoofdmenu**
 - vragen autobiografisch schrijven
 - vragen autobiografische reflectie

1. Jeugd jaren


2. Werk en zorg

3. Liefde en vriendschap

Levenskunst (extra module)

4. Lezen van je leven

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Uit je verhaal Thema 1
Bronnen en Tips

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 - Filmpje 'nut van schrijven'**
 - Doelen
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 - Thema 1 Jeugd jaren
 - Autobiografisch schrijven
 - Autobiografische reflectie
 - Creative opdracht

Waarom autobiografisch schrijven?

Wetenschappelijk onderzoek toont aan dat schrijven over herinneringen en moeilijke gebeurtenissen in je leven kan leiden tot zelfinzicht, groei, en een vergroot welbevinden. Het schrijven kan zorgen voor de bewustwording van je (professionele) identiteit.




In dit filmpje vertellen oud-studenten Aileen en Chris, docent Frank en werkvelddeskundigen Carole, Inge en Ellie in zes minuten wat de meerwaarde is van autobiografisch schrijven.

Web Video is unavailable during preview.

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Inleiding 7

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[VOLGENDE >](#)



Uit je verhaal Thema 1

Bijlagen

Dit zijn de eerste 5 vragen van de 13 vragen van het autobiografisch schrijfgedeelte:


1. Waar en wanneer ben je geboren?
2. Heb je broers of zussen? Kun je ze beschrijven?
3. Kun je je relatie met je ouders/ verzorgers omschrijven?
4. Waarin lijkt je op je vader en waarin op je moeder (of je verzorgers) en waarin niet?
5. Hoe was je als kind? (denk aan verschillende locaties als thuis, school, familie/vrienden, buurt, muziek, sportclubs). Waar was je vroeger het liefst?

Thema 1 Jeugd jaren

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- Uit je verhaal
- Opbouw methode
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- vragen autobiografische reflectie



Uit je verhaal Thema 1

Bronnen en Tips

Anna, je gaat nu beginnen met thema 1 Jeugd jaren.

Thema 1 gaat over herinneringen over je vroege jeugd en familie (0 - 18 jaar). Deze les bestaat uit de volgende onderdelen.

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Thema 1 Jeugd jaren 11

Autobiografisch schrijven

- Inleiding: alternatieve verhalen

13 vragen om uit te kiezen

Autobiografische reflectie

A: Positieve herinnering

B: Identiteitsherinnering

C: Methode 1 Uitzonderingen en Kracht

D: Methode 2 Regel van zes

keuze uit bovenstaande methoden

Menu

- Uit je verhaal
- Hoofdmenu
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 - Autobiografisch schrijven
 - Autobiografische reflectie
 - Creative opdracht

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Uit je verhaal Thema 1
Bijlagen


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vragen autobiografische reflectie

Thema 1 Jeugdijaren

Je hebt nu ook het onderdeel autobiografische reflectie afgerond.

Hierna volgt een extra creatieve opdracht.

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Uit je verhaal Thema 1
Bronnen en Tips

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Creatieve opdracht

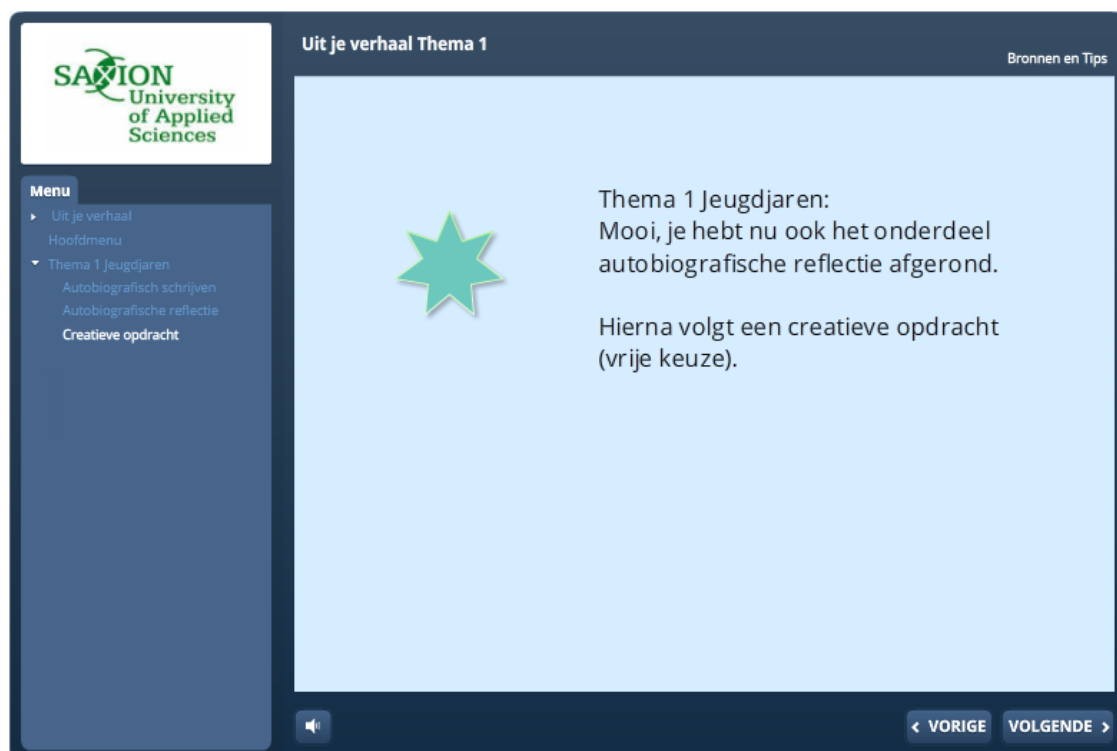
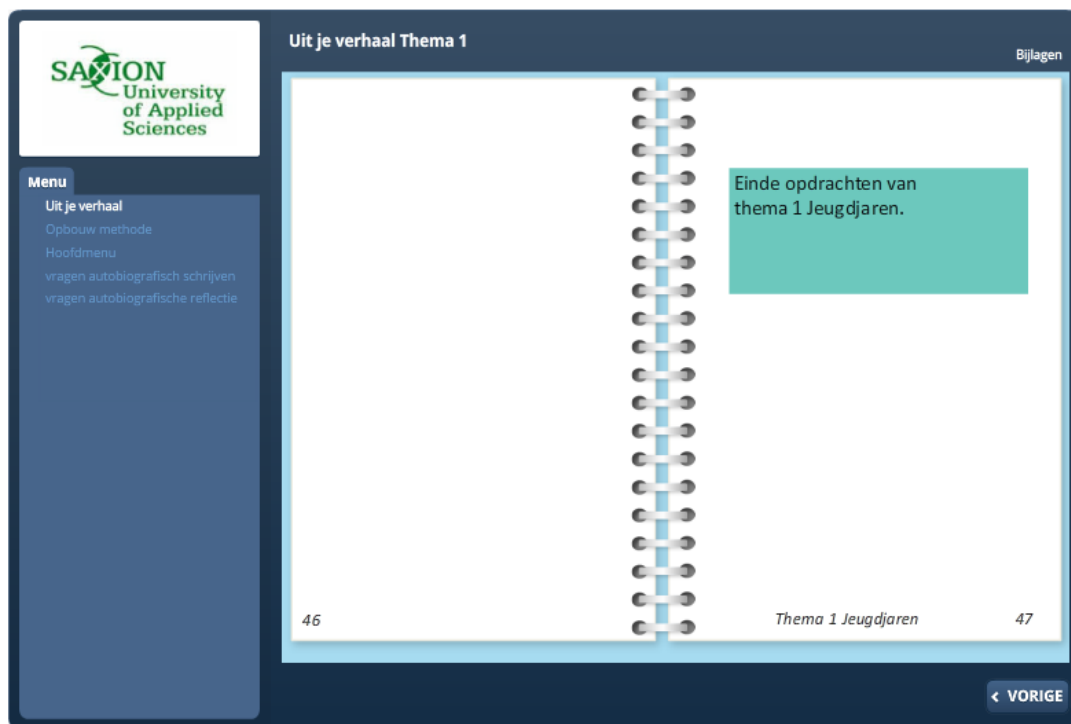
Dit zijn de eerste 5 vragen van de 13 vragen van het autobiografisch schrijfgedeelte:


1. Waar en wanneer ben je geboren?
2. Heb je broers of zussen? Kun je ze beschrijven?
3. Kun je je relatie met je ouders/ verzorgers omschrijven?
4. Waarin lijkt je op je vader en waarin op je moeder

Laat je pen het woord doen
Vraag 1 tot en met 13 (het gedeelte autobiografisch schrijven) zijn bedoeld om je geheugen te prikkelen en je een beeld te vormen van je jeugd. Voel je vrij om iets uit te werken waar hier niet naar gevraagd wordt. Laat je verrassen en laat je pen het woord doen!
Het kan ook zijn dat je bij een vraag iets uitwerkt dat later gevraagd wordt. Sla dan gerust die vraag over. Het is jouw verhaal.

Thema 1 Jeugdijaren
schrijfgedeelte

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Uit je verhaal Thema 1

Bronnen en Tips

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 - Autobiografisch schrijven
 - Autobiografische reflectie
 - Creative opdracht



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Je hebt het gedeelte autobiografisch schrijven van thema 1 Jeugdijaren afgerond.

We gaan nu verder met het gedeelte autobiografische reflectie. Dit helpt je om kritisch te reflecteren (NARRA) zie het infoknopje.

Dit onderdeel omvat:


- A positieve herinnering
- B identiteits herinnering
- C moeilijke herinnering via methode 1
- D moeilijke herinnering via methode 2

[Werk A & B uit of C of D](#)



Thema 1 Jeugdijaren 29

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Uit je verhaal Thema 1

Bronnen en Tips

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 - Autobiografische reflectie
 - Creative opdracht



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Einde opdrachten van thema 1 Jeugdijaren.

Anna in de volgende les zal de docent met jullie terugblikken op het huiswerk van het thema Jeugdijaren. Je volgende online module is thema 2 Werk en zorg.

[Terug naar hoofdmenu](#)

Thema 1 Jeugdijaren 47

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