



Impact of Prospective Teachers' Self Control and Knowledge Management in Compiling a Reflective Portfolio

Öğretmen Adaylarının Yansıtıcı Ürün Dosyası Hazırlamada Öz Denetim ve Bilgi Yönetiminin Etkisi

Zehra A. GAZİ*, Fahriye A. AKSAL**, Behçet ÖZNACAR***, Gökmen DAĞLI****

ABSTRACT: Within the framework of action research, connectivity theory has been suggested as a means to encourage learners to manage the process during the teaching practicum. The aim of this study was to explore the impact of self-control and knowledge management abilities of prospective teachers in compiling a reflective portfolio in teaching practice as a part of a teaching practicum course. 44 prospective teachers participated in this study. In the study, qualitative research (i.e. semi structured interviews and reflective reports) was used. Research findings show that the prospective teachers require both self-control and the ability to manage knowledge in compiling a reflective portfolio. Self-control and self-learning through dialogue and negotiation with peers and course tutors enhance the prospective teachers' reflection, ability in intellectual flexibility and skills in knowledge management. In addition to this, the research findings highlight how connectivity theory can be implemented in course instruction and enhance the professional experience through reflective portfolio

Keywords: Action Research, Knowledge Management, Reflective Portfolio, Self-Control

ÖZ: Bu çalışmada eylem çalışmasına bağlı, bağlantı teorisinin öğretim sürecinde uygulanması ele alınmıştır. Araştırmaya 44 aday öğretmen katılmıştır. Çalışmada nitel araştırma çerçevesinde yarı yapılandırılmış mülakat ve yansıtıcı raporlar veri toplama süreci olarak kullanılmıştır. Araştırma bulguları, öğretmen adayının yansıtıcı ürün dosyası geliştirmesinde öz denetim ve bilgi yönetimi becerisine sahip olması gerektiğini ve yansıtıcı ürün dosyası kullanımının bu becerilere katkı sağladığını göstermektedir. Öğretmen adaylarının sahip olduğu öz denetim ve arkadaşları ile kurmuş olduğu diyalog, müzakere kullanarak bilgiyi yönetmede etkili olduğunu ortaya koymuştur. Öz denetim ve öz disiplin ile öğretmen adaylarının arkadaşlarıyla ve öğretmen ile arasında kurduğu diyalog ve münazara aynı zamanda yansıtıcı ve esnek düşünme becerisine de katkı sağlamıştır. Buna ek olarak, araştırma bulguları bağlantı teorisinin yansıtıcı ürün dosyası kullanarak ders tasarımında uygulanabileceğini ve mesleki beceriye katkısı olacağını vurgulamıştır.

Anahtar sözcükler: Eylem Çalışması, Bilgi Yönetimi, Yansıtıcı Ürün Dosyası, Öz Denetim

1. INTRODUCTION

“The nature of knowledge or what it means to be knowledgeable is evolving” (Starkey, 2010: 234). The realization of this evolution has led to the consideration of how knowledge is created and can be examined using the learning theory of connectivism. Connectivism is a new learning theory according to which the learning of individuals is fostered based on a changing information environment. The networked nature of knowledge construction is shown by emphasising the importance of participation and technology. As connectivism facilitates the teacher as a mediator, learners engage in socialization and interaction in the construction of knowledge (Siemens, 2005). In this respect, connectivism provides a rationale for the explanation

* Assoc. Prof. Dr., Faculty of Education, Near East University, North Cyprus, Mersin 10 Turkey, e-mail: zehra.altinay@neu.edu.tr

** Assoc. Prof. Dr., Faculty of Education, Near East University, North Cyprus, Mersin 10 Turkey, e-mail: fahriye.altinay@neu.edu.tr

*** Dr., Faculty of Education, Near East University, North Cyprus, Mersin 10 Turkey, e-mail: oznacar.behcet@gmail.com

**** Assoc.Prof.Dr., Faculty of Education, Near East University, North Cyprus, Mersin 10 Turkey e-mail: gokmen.dagli@neu.edu.tr

of self-organizing and complexity of thinking in order to construct and manage knowledge based on interaction and participation.

In the mid-20th century, development in the technology in all fields created an “information society” that is significant in economic, educational and cultural activities (Merier, 2007). In a digitally enhanced society, the learning process is the continual expansion of knowledge, as new and novel connections are facilitated by new interpretations and understandings, thereby creating new knowledge (Starkey, 2010). In the 21st century, technology and globalization are impacting the creation of knowledge and have changed the ways of accessing knowledge by facilitating active participation of individuals (Seferoglu, 2007a, 2007b). In the creation of knowledge, the active involvement of learners, self-control, knowledge management, and the practice of knowledge are essential. In this respect, enriching reflective thinking, connections, and managing knowledge through the improvement of self-organization of learners enhance personal and professional development. In this study, knowledge management refers to the use of information technology and information management on the effectiveness of teaching practice and profession in compiling a reflective portfolio during the practicum course.

Teaching is a complex profession in which multiple areas of knowledge are encapsulated, which require a variety of abilities (Mestry, Hendricks & Bisschoff, 2009). Therefore, enhancing reflective thinking in the teaching portfolio is a crucial process to contribute to the abilities as a tool in teacher education (Knottenbelt, 2002; Schoeman & Mabunda, 2012; Van Der Westhuizen & Smith, 2000). Reflective portfolios consist of the individual prospective teachers' records on the collective tasks of observation and teaching practices. The compiling of a reflective portfolio embraces the following eight steps: (1) General observation list; (2) reporting and reflecting on school administration (i.e. communication, societal collaboration, psychological guidance and counselling, sport activities, security, curriculum and course plans); (3) observing and reflecting on the teacher while teaching courses in relation to classroom management, principles and methods of teaching and so on; (4) reflecting on components of teaching practice (i.e. field knowledge, personal and professional abilities, communication, principles and teaching methods, course plan and teaching process); (5) filling in a self-evaluation form; (6) writing observation diaries; (7) collecting documents and archives about the school; and (8) taking part in the microteaching process (Gazi & Aksal, 2011). Moreover, the content of reflective portfolios can provide an indication of the competencies for the teaching profession of pre-service teachers (Smith & Tillema, 2007).

The reflective portfolio supports the professional development of prospective teachers in pedagogical knowledge (Dinham & Scott, 2003). Furthermore, portfolios help to re-analyze the practices of teaching and reflective thinking through knowledge management (Montgomery, 2003). Portfolio is a key tool for developing both learning and teaching skills that are a central requirement for teacher preparation, and they are useful as a reflection tool and a way to organize and connect course content. The portfolio also continues to provide value after graduation from the teacher education. It develops and promotes reflective learning through teaching practices. Therefore, reflection is a key factor in managing knowledge and is essential to facilitate critical thinking and the ability to integrate and apply knowledge in a dynamic world. It also supports the ability to solve problems innovatively based on the notion of connectivism (Hamilton & Kahn, 2009).

Self-control is the auto-control of individuals in order to achieve a common mission by personally controlling boundaries. It is a process of planning to accomplish a stated mission and activating a plan by individually making decisions. In this respect, self-control refers to taking action by self-decision, practice, and responsibility through obeying rules (Goleman, Boyatzis, & McKee, 2002).

In review of the literature, a number of studies highlighted and emphasized the significance of portfolios in teacher education (Davies & Willis, 2001) and prospective teachers' creation of knowledge (Granberg, 2010). According to Verkler (2000), a professional portfolio is a prerequisite for internship that underlines the importance of reflective thinking for knowledge creation and management. The integration of portfolios into teacher education programs requires applying both new learning theories as well as basic principles in order to support the teaching profession (Beck & Bear, 2009). Such integration provides social, interactive, and active learning processes whereby prospective teachers gain the skills of reflection, self-control, and knowledge management (Hauge, 2006; Mansvelder-Longayroux, Beijaard, & Verloop, 2007). Although the literature also included a considerable number of discussions on reflective portfolios and teacher development, our objective in the current research was to study the impact of self-control and knowledge management in developing a reflective portfolio. To this end, the following research questions are addressed:

- a) To what extent does a reflective portfolio enhance prospective teachers' professional development?
- b) How do prospective teachers perceive the impact of self-control in developing a reflective portfolio?
- c) How do prospective teachers perceive the impact of knowledge management in developing a reflective portfolio?

2. METHOD

The design for this study was framed upon the understanding of socially constructed meanings of the perceptions, experiences, and interaction for the reality and the complexity of the life and behaviors of the individuals in the group (Denzin & Lincoln, 2003). The process of interaction becomes a rationale of the study. It belongs to the interaction of a group of prospective teachers and their learning. This shows the evidence of self organization of prospective teachers and their learning in relation to connectivist theory (Creswell, 2003; Siemens, 2005).

2.1. Research Design

In educational studies and research, integrating theory into practice requires an in-depth understanding of human interaction and experience. In this study, qualitative research design was used to explore the interpretive and socially constructed meanings of educational practices (Denzin & Lincoln, 2003). For this aim, the impact of self-control and knowledge management on prospective teachers, as they compiled reflective portfolios in teaching practice was examined.

In the study, action research is used as considered as a type of evaluative tool for improvement of professional practice. Action research is based on a self-reflective learning cycle which the essence of the research relies on developing a reflective portfolio in teaching practice (Johnson, 2002; Mills, 2003). The learning cycle has six steps: 1) asking questions, 2) collecting data, 3) analyzing, 4) reflecting, 5) planning actions, and 6) positive action for change (Mills, 2003).

2.2. The Participants and Procedures

The 44 prospective teachers who involved in this qualitative study were taking practicum courses in classroom management program as part of the teacher education program. Participants are from one of the higher education institutions who enrolled practicum courses. The aim of the practicum course was to improve prospective teachers' teaching performance and abilities in reflective teaching practice. 13 weeks of micro-teaching lessons in the light of connectivist theory and learning cycle, and action research for change and development were conducted. Micro-

teaching was the training technique used as a base for the personal and professional growth of prospective teachers in practicum courses whereby the prospective teachers experienced the actual nature of the teaching and learning context. The prospective teachers participated in the study voluntarily, and the qualitative data were collected based on purposive sampling.

2.3. Data Collection and Analysis

Multiple qualitative data collection techniques (i.e. semi-structured interviews, and reflective reports) from microteaching sessions were implemented (Denzin & Lincoln, 2003). Six semi-structured interview questions were used to examine the impact of self-control and knowledge management in compiling reflective portfolios. Furthermore, four questions in line with the semi-structured interviews, as a reflective report, were used to examine the impact of microteaching. Observation diaries in teaching practice and the contribution of the practicum course on the development of competence and skills were also practiced. Prospective teachers were trained on the importance of self-control, knowledge management, the reflective portfolio, and microteaching for future experience.

The semi-structured interviews and reflective reports provided an evaluative process to understand the outcome of the research process and the practicum course. In this process, semi-structured interview questions and the reflective reports were reviewed by two experts and piloted. In addition, thematic analysis to interpret qualitative data by indicating key themes and interconnection with data were examined (Altinay & Paraskevas, 2008). Significantly, implementing triangulation helped with cross-examination and verification of data and increased the credibility and objectivity of the research. In terms of ethics, coded numbers were used for all participants to ensure their anonymity and to guarantee the confidentiality of the collected data.

3. FINDINGS

In-depth examination of the triangulated data (i.e. data collected through semi-structured interviews, reflective reports and observation diaries) provided significant findings regarding the impact of self-control and knowledge management in developing reflective portfolios in a teaching practicum. Furthermore, qualitative data from the semi-structured interviews indicated that developing a reflective portfolio was important to achieve a reflective teaching model and carry out a self-assessment on their own learning process as regards the connectivist theory framework. In addition, research findings from the semi-structured interviews confirmed that self-control and knowledge management were the means to facilitate reflective teaching practice and professional development. The reflective reports of the prospective teachers highlighted the fact that their observations and microteaching sessions had a potential impact on their teaching performance as a mirror of reality and future experience. Compiling a reflective portfolio was a developmental process for prospective teachers to reflect on their actions.

Enhancing Professional Development through Reflective Portfolio

Reflection is a fundamental element in the compilation of a portfolio for practicum courses in the teacher education program. The reflective portfolio is the bridge for professional practice, which involves and reflects experienced activities and observations for the teacher's future professional life. In the course of these activities, prospective teachers reflect on their actions and report on their experiences and thereby enhance the internalization of professional practice, improve their self-control, and enrich their knowledge management skills as transferable skills for the future.

In this study 33 out of 44 prospective teachers participated in a 40-minute semi-structured interview. Qualitative data from the semi-structured interviews confirmed that compiling a

reflective portfolio enriched the field knowledge, pedagogical competence, and personal skills of the participants. In the semi-structured interview, prospective teacher (PT) 11 highlighted that the compiling of the reflective portfolio with the support of a course instructor and peers enhanced his/her field knowledge and pedagogical competence. For PT 21, 22, and 24, the compiling of the reflective portfolio was the teacher development activity that enhanced their field knowledge and pedagogical competence. A comment from PT 23 was that developing a reflective portfolio supported his/her field knowledge and pedagogical competence in the practicum course and the action learning process. Similarly, PT 27, 28, and 29 stated that activities involved in compiling the reflective portfolio and their experiences during the practicum increased their field knowledge and pedagogical competence. A point made by PT 29 was that compiling a reflective portfolio significantly enriched his/her classroom management ability within the framework of pedagogical competence. Another point made by PT 2, 3, 24, and 26 was that the reflective portfolio was a guide and reminder activity in action learning and their professional development.

There was a consensus among PT 4, 5, 6, 10, 12, 14, 16 and 28 that compiling a reflective portfolio helped to internalize their pedagogical competence. Indeed, they shared the view that visually aided learning and technology content competences were the fundamental elements of effective teaching practice. In terms of skills, PT 1 asserted that compiling a reflective portfolio helped with being a researcher and having the curiosity to continue to discover and learn. Similarly, PT 17 and 18 observed that compiling a reflective portfolio enriched their researcher ability. Furthermore, PT 13, 20, and 25 stated that compiling a reflective portfolio proved to be self-evaluative for them and developed their ability to be self-responsible for their own learning and actions. From PT 31 came the comment that compiling a reflective portfolio increased his/her prospective's level of communication and negotiation with peers and the course instructor. According to research findings, research participants reflected that developing reflective portfolio became a mirror for enhancing their professional development, as indicated in Table I below.

Table I. Distribution of Participants' Responses in regard to their Professional Development

Research Participants	Themes
21, 22, and 24	compiling of the reflective portfolio was the teacher development activity
23	developing a reflective portfolio supported their field knowledge and pedagogical competence
27, 28, and 29	activities while engaging in preparing the reflective portfolio
2, 3, 24, and 26	the reflective portfolio was a guide and reminder activity in action learning
4, 5, 6, 10, 12, 14, 16 and 28	compiling a reflective portfolio helped to internalize their pedagogical competence
17 and 18	compiling a reflective portfolio enriched their researcher ability
13, 20, and 25	portfolio proved to be self-evaluative for them and developed their ability to be self-responsible for their own learning and actions
31	increased their prospective level of communication and negotiation with peers

Self-control in Developing a Reflective Portfolio

As the practicum course and portfolio compilation process require self-organization and complexity resolution skills through critical thinking and intellectual flexibility within the framework of connectivist theory, PT 32 underscored how time management was a crucial skill. Significantly, PT 8, 9, 12, 15, 16, 19, and 20 semi-structured interviews evidenced that compiling a reflective portfolio enhanced their self-control and knowledge management skills, which are necessary in every aspect of human life in the digital age. Summarizing the process of compiling a reflective portfolio, PT 33 said:

“It is a guidebook that requires self-organization and discipline. As individuals need self-control and skill in knowledge management to compile a reflective portfolio, it also helps to develop those skills within a process. In addition to the skills, the compiling of a reflective portfolio contributes to the evaluation of the pedagogical experience and field knowledge. Moreover, I have developed my technological content knowledge, as it is a significant component of both teacher competence and skill for effective teaching practice and profession.”

The other members of the prospective teacher participant group did not provide significant qualitative results for this section of the research findings. As regards the aim of this research, it can be highlighted that, for the group of prospective teachers who took part in our study, self-control and knowledge management skill had significant impacts on the process of compiling their reflective portfolios. At the same time, almost all of the prospective teacher participants stated that this process enriched these skills.

Self-control and knowledge management ability are two critical abilities for the professional development of prospective teachers, to achieve success in the practicum course. Success depends on manifesting self-control and having the knowledge management skill required in compiling a reflective portfolio. The qualitative data obtained from the semi-structured interviews highlighted that the prospective teachers were aware of the impact and importance of these skills in developing a portfolio. At the same time, they pointed out that the action learning and the practicum course helped them to enhance their self-control and knowledge management skills. The ability to control oneself as a mechanism is essential for managing the complexities of life and in seeking effective solutions. Self-control has been described as a transferable skill to encounter complex situations and finding solutions in a continual process which may enrich this ability for the individual to adapt to changes and survive in a dynamic environment (Hamilton & Kahn, 2009). It is similar for reflective teachers who need to display self-control in order to manage tasks, the class, and relationships with prospective colleagues, parents and school administration. All are interconnected and complex rather than straightforward and simple.

In our study, 33 of the 44 prospective teachers provided significant evidence that self-control had an impact on compiling a reflective portfolio and in fostering their knowledge management ability in teaching practice. Almost all of them agreed that the course instructor provided a model of how to manifest self-control and discipline for the course of action. Three of the prospective teachers (PT 1, 10, and 29) stated that the course instructor helped them develop the ability to exercise self-control through modelling. They pointed out that self-control was the ability to implement what needed to be done without continual instruction. Significantly, PT 3 underscored the fact that having the ability to exercise self-control facilitated dealing with complexity and finding appropriate, effective, and efficient solutions when compiling a reflective portfolio. As the course was based on connectivist theory, requiring self-organization and construction of knowledge in complexity, almost all the prospective teachers agreed that self-control had a potential impact in compiling a reflective portfolio. Moreover, the participants agreed that learning from experience was essential, and that their skill at exercising self-control was enhanced during the course and, as a result of the course, they were better able to manage knowledge in an efficient way. According to the findings upon the self-control in developing a reflective portfolio, the results revealed that not only did the participants reflect how self-control was significant in developing reflective portfolio, but reflective portfolio also enhanced their self-control ability (Table II).

Table II. Distribution of Participants' Responses in regard to Self-control for Reflective Portfolio

Research Participants	Themes
8, 9, 12, 15, 16, 19, and 20	compiling a reflective portfolio enhanced their self-control and knowledge management skills
33	needs self-organization and discipline
1, 10, and 29	course instructor helped them develop the ability to exercise self-control through modelling
3	the ability to exercise self-control facilitated dealing with complexity and finding appropriate, effective, and efficient solutions
32	how time management was a crucial skill

The Impact of Knowledge Management in Developing a Reflective Portfolio

Although there are various definitions and practices for organization and management of knowledge in the literature, the concept is rooted in tacit knowledge creation and acquisition, as it is also highlighted in other studies (Loermans, 2002). As observed in the literature, knowledge management is essential for enterprising companies to retain a competitive advantage and to create new knowledge and disseminate this as regards new technologies. In this study, with the assumption that prospective teachers also need to learn, create new information, and manage information in a continual learning process.

Prospective teachers should also have awareness of new technologies in order to adapt to the digital age and to the competitive environment of the 21st century (Hautala, 2011; Loermans, 2002; Türel, 2013; Yenilmez & Seferoglu, 2013; Yıldız, Saritepeci & Seferoglu, 2013). In this respect, the prospective teachers, who took part in our study, stated in their semi-structured interviews that the ability to manage knowledge was a significant factor in compiling a reflective portfolio and in visually aided microteaching sessions. Furthermore, almost all of the prospective teachers pointed out that this process enriched their knowledge management ability. The comment from PT 1 was that knowledge management referred to new technologies and applications and information management. This participant highlighted the fact that, when compiling a reflective portfolio, it was crucial to consider the harmony of instructional technologies and to reflect critically on the selection and combination of information by including videotapes, films, and photographs in the reflective portfolio.

Similar to PT 1, PT 2, 5, and 7 stated that new technologies and information management should harmonize and knowledge management was essential for compiling a reflective portfolio and for the success of the practicum course. The view expressed by PT 15 and 16 was that a synergy of new technologies and information management in teaching practice stimulated curiosity and motivation for continual learning and development. Significantly, PT 9 and 17 put forward the view that knowledge management was crucial in microteaching sessions as it was also part of the reflective portfolio. They felt that managing information and developing instructional materials in teaching practice were vital part of the process. Almost all the prospective teachers observed that the significance of knowledge management was the ability to be aware of new information, organize information with the support of technology, and even share constructed tacit knowledge with others with new technologies. Furthermore, almost all agreed that the practicum course and process of compiling the reflective portfolio increased their knowledge management skill along with the impact of micro-teaching and their observation diaries in teaching practice. Micro-teaching sessions and observation diaries during the practicum course were critical factors for the success of the practice of the teaching profession.

Furthermore, microteaching sessions provide an opportunity for reflective dialogue and self-evaluation as internalization of teaching practice occurs. Connectivism embraces the components of discourse, negotiation, and self-organization in this complex process. The practicum course provides a reflective process, self-evaluation, and organization of knowledge, interaction, and facilitation by the course instructor in order to assist internalization of teaching practice (Edwards, 2007). In this respect, qualitative data from the reflective reports covered the impact of microteaching sessions and observation diaries were highlighted. As part of their reflective portfolios when taking practicum courses, prospective teachers prepared observation diaries to record experiences, observations, and dialogues.

Almost all of the prospective teachers, who took part in this study, reported that their observation diaries helped them keep brief notes to remember actions during the practicum and microteaching sessions. Almost all were firm on the view that their observation diaries provided a road map to see the flow of course action and to determine their self-developmental stages as part of the reflective portfolio. The prospective teachers also reported that their observation diaries helped with compiling their reflective portfolios in terms of developing self-discipline and self-management skills. Additionally, in this study, the prospective teachers reported on the microteaching sessions where they experienced the actual nature of the teaching practice to determine their strengths and weaknesses for future experience as a teacher. It was reported by PT 15, 27, and 39 that the micro-teaching sessions helped with the life experience of the actual teaching process and acted as a window on future experience.

As regards the reflective reports, 33 of the 44 prospective teachers reflected on experiences and reflections. The feedback from PT 1 was that observation diaries and microteaching sessions were essential with regard to the self-control principle, and contributed to professional development. Significantly, PT 1 and 11 both considered that discovery, the learning process, and self-management were crucial to internalize teaching practice. Furthermore, PT 11 and 35 found that group discussion within practicum courses increased their analysis and evaluation ability. A comment from PT 20 was that, during the practicum course, brainstorming after each microteaching session increased dialogue and communication skills as well as pedagogical internalization. PT 14 highlighted that prospective's learning and encouraged involvement in observation and teaching practice were enhanced. In other responses, some prospective teachers stated that observation diaries and microteaching sessions were critical for the success of teaching practice. Significantly, PT 38 noted that the observation diary was the guide for the microteaching and reflection process.

Moreover, PT 2 and 34 stated that microteaching sessions provided practice of field knowledge, principles and methods of teaching as they require self-discipline and self-control. In addition, the prospective teachers found that observation and diaries were necessary to reflect on actions. For PT 3, 10, 26, and 30, their perceptions were that efficient delivery of the course was needed to plan and carry out self-evaluation. Microteaching sessions and observation diaries required self-evaluation and self-control to be reflective. A comment from PT 4 was that learner-centred education, self-evaluation, self-control and self-management were crucial factors in order to be successful in teaching practice. A point made by PT 4 was that self-control and knowledge management were significant factors necessary to prepare observation diaries and be involved in microteaching sessions. At the same time, these activities helped the development of self-control and knowledge-management skills. Significantly, PT 5, 9 and 17 highlighted the fact that visually aided learning and teaching practice provided a mirror of practice. This was also an efficient tool in the use of time during microteaching sessions.

It can be underlined that video-stimulated microteaching provides concrete examples of practice in order to facilitate both reflection and evaluation for future experience of the learners. Three of the prospective teachers (PT 5, 19, and 25) commented that receiving constructive

feedback from peers as well as from the course instructor during the practicum course in conjunction with video stimulated microteaching sessions provided opportunities for the development of personal and professional abilities as a teacher. For PT 6 and 7, compiling their observation diaries led them to be reflective researchers and enhanced their microteaching practice. Significantly, PT 8, 28, 29, 42, and 43 reported that learning by doing during the practicum course increased their self-control and knowledge management skills, thereby providing personal and professional development. The feedback from PT 12, 21, 22, and 34 was that observation and reporting diaries enhanced their knowledge, their self-confidence, and their communication abilities and that these components were very important to teaching practice. Similarly, PT 12, 13, 18, 28, 31, and 37 reported that communication and self-evaluation could be developed during microteaching sessions. For PT 23, 25, and 33, the practicum course provided a learner-centered, self-organization process whereby working hard on observation diaries and involvement in microteaching sessions increased their skills of time management and communication with others.

An important aspect of the practicum course with observation diaries and microteaching session activities was highlighted by PT 36 in that it was stated that these aided prospective teachers in gaining competence, skill, and field knowledge according to international standards and teacher education programs. There were only two prospective teachers (PT 40 and 44) who did not make any comments in relation to the scope of the study. According to the reflective reports of the prospective teachers, almost all of them held the firm belief that their observation diaries and the microteaching sessions were part of the reflective portfolio and practicum course that helped them with reflection, communication, self-control and knowledge-management skills in teaching practice.

In summary, the overall evaluation of the practicum course in relation to the action learning process and connectivist theory was that it contributed to teacher development and development of professional skills. In this reflective process, prospective teachers developed skills in dialogue, negotiation, and experience peer support. Within the framework of connectivist theory and action learning, almost all the prospective teachers, who took part in our study, found that compiling a reflective portfolio enriched their field knowledge and pedagogical competence. Upon findings, Table III clearly shows how the impact of knowledge management can enhance reflective portfolio.

Table III. Distribution of Participants' Responses in regard to the Impact of Knowledge Management

Research Participants	Themes
PT 1, 2, 5, and 7	new technologies and information management should harmonize and knowledge management was essential for compiling a reflective portfolio
15 and 16.	synergy of new technologies and information management in teaching practice stimulated curiosity and motivation for continual learning and development
PT 9 and 17	knowledge management was crucial in microteaching sessions as it was also part of the reflective portfolio
15, 27, and 39	micro-teaching sessions helped with the life experience of the actual teaching process
11 and 35	group discussion within practicum courses increased their analysis and evaluation ability
8, 28, 29, 42, and 43	learning by doing during the practicum course increased their self-control and knowledge management skills
12, 21, 22, and 34	observation and reporting diaries enhanced their knowledge, their self-confidence
12, 13, 18, 28, 31, and 37	communication and self-evaluation could be developed during microteaching sessions
23, 25, and 33	practicum course provided a learner-centered, self-organization process whereby working hard on observation diaries

In addition, qualitative data confirmed that action learning contributed to the success of connectivist theory-based course actions. Significantly, as indicated by our qualitative data, self-control and knowledge management were fundamental skills developed together with compiling reflective portfolios. From the group of participants, 35 of prospective teachers gained modelling, leadership, and researcher roles during the practicum course. The prospective teachers highlighted the fact that real-time experience of teaching practice, technology-driven pedagogical competence and internalization were achieved. Within this action research process, these prospective teachers gained opportunities to develop their professional abilities for future experience. Furthermore, the participant group pointed out that their skills in critical thinking, intellectual flexibility, and reflection were all enriched through the practicum course.

4. DISCUSSION, CONCLUSIONS and RECOMMENDATIONS

In this study, the findings on the impact of self-control and knowledge management in compiling a reflective portfolio as part of a teaching practice course were discussed. The findings revealed that course developed their skills in reflection, creation of knowledge, and pedagogical reasoning. As shown in the study by Jones (2010), portfolios promote reflective practice, for which the examination of new learning theories, networking, and the creation of knowledge based on self-organization of learners are crucial. Engaging prospective teachers in the self-organized reflective process for the profession is the concept upon which connectivism in the teaching practicum is based on (Bransford et al., 2005).

The portfolio preparation process facilitates the development of self-control, learner autonomy, and knowledge management. Furthermore, the importance of self-control and knowledge management is considered within the focus of this study as a prerequisite for preparing a portfolio. As a result, the findings that are reflected from 33 prospective teachers' opinions, experiences, portfolio preparation also enriches self-control and knowledge management. In other words, this study has facilitated development of better understanding of how engagement in the process of portfolio development influences professional learning and practice in terms of self-control and knowledge management. A study by Mayisela (2013) concluded that students with access to technology had an increased opportunity to access the courseware of the blended learning course. Proficiency in teaching practice requires the merging of theory with practice through experience, critical analysis of knowledge (Biggs, 2003), creation of ongoing knowledge within the teaching profession. This is facilitated by the portfolio, which is an assessment and also a facilitator task for the development of professional skills (Jones, 2010).

Learning through practice and reflective portfolios fosters personal and professional development in teacher education (Frick, Carl, & Beets, 2010). Further, as the nature of knowledge and the means of knowing are evolving, complexity of thinking and self-organizing complement each other in the construction of knowledge. Therefore, establishment of connections to new interpretations and understandings relies on continual expansion of knowledge, in which the reflective portfolio is one tool for enhancing personal and professional development.

Although the study yielded positive results as regards the impact of self-control and knowledge management in compiling a reflective portfolio for classroom management teacher education programs, comparative case studies need to be conducted to examine the effectiveness of practicum courses in relation to connectivist theory, and the significant differences between the various fields in teacher education programs based on longitudinal studies are recommended for future research.

5. REFERENCES

- Altınay, L., & Paraskevas, A. (2008). *Planning research in hospitality and tourism*. Oxford, UK: Elsevier.
- Beck, R. J., & Bear, S. L. (2009). Teachers' self-assessment of reflection skills as an outcome of e-folios. In P. Adamy, & N. B. Milman, (Eds.), *Evaluating electronic portfolios in teacher education* (pp. 1–22). Charlotte, NC: Information Age Publishing.
- Biggs, J. (2003). *Teaching for quality learning at university* (2nd ed.). Maidenhead, UK: Society for Research into Higher Education.
- Bransford, J., Derry, S., Berliner, D., Hammerness, K., & Beckett, K. L. (2005). Theories of learning and their roles in teaching. In L. Darling-Hammond & J. Bransford (Eds.), *Preparing teachers for a changing world: What teachers should learn and be able to do* (pp. 40–87). San Francisco, CA: Jossey-Bass.
- Creswell, J. W. (2003). *Research design: Qualitative and quantitative approaches*. London, UK: Sage.
- Davies, M. A., & Willis, E. (2001). Through the looking glass: Preservice professional portfolios. *The Teacher Educator*, 37, 27–36. <http://doi.org/dnz59c>
- Denzin, N. K., & Lincoln, Y. S. (2003). *Collecting and interpreting qualitative materials*. London, UK: Sage.
- Dinham, S., & Scott, C. (2003). Benefits to teachers of the professional learning portfolio: A case study. *Teacher Development: An International Journal of Teachers' Professional Development*, 7, 229–244. <http://doi.org/d5g8zs>
- Edwards, S. (2007). From developmental-constructivism to socio-cultural theory and practice: An expansive analysis of teachers' professional learning in early childhood education. *Journal of Early Childhood Research*, 5, 83–106. <http://doi.org/cm5fbv>
- Frick, L., Carl, A., & Beets, P. (2010). Reflection as learning about the self in context: Mentoring as catalyst for reflective development in pre-service teachers. *South African Journal of Education*, 30, 421–437.
- Gazi A. Z., & Aksal, A. F. (2011). The film as visual aided learning tool in classroom management course. *Hacettepe University Journal of Education*, 41, 170–179.
- Goleman, D., Boyatzis, R., & McKee, A. (2002). *Primal leadership: Realizing the power of emotional intelligence*. Boston, MA: Harvard School Press.
- Granberg, C. (2010). E-portfolios in teacher education 2002–2009: The social construction of discourse, design and dissemination. *European Journal of Teacher Education*, 33, 309–322. <http://doi.org/bgzn2w>
- Hamilton, S., & Kahn, S. (2009). Demonstrating intellectual growth and development: The IUPUI ePort. In D. R. Cambridge, B. L. Cambridge, & K. B. Yancey (Eds.), *Electronic portfolios 2.0: Emergent research on implementation and impact* (pp. 91–96). Sterling, VA: Stylus.
- Hauge, T. E. (2006). Portfolios and ICT as means of professional learning in teacher education. *Studies in Educational Evaluation* 32, 23–36.
- Hautala, J. (2011). International academic knowledge creation and ba. A case study from Finland. *Knowledge Management Research & Practice*, 9, 4–16.
- Johnson, A. P. (2002). *A short guide to action research*. Boston, MA: Allyn & Bacon.
- Jones, E. (2010). Personal theory and reflection in a professional practice portfolio. *Assessment & Evaluation in Higher Education*, 35, 699–710. <http://doi.org/cj8qnd>
- Knottenbelt, M. (2002). Developing portfolios for learning and assessment: Processes and principles. *International Journal for Academic Development*, 7, 177–180. <http://doi.org/dfjj9p>
- Loermans, J. (2002). Synergizing the learning organization and knowledge management. *Journal of Knowledge Management*, 6, 285–294. <http://doi.org/cs4m48>
- Mansvelder-Longayroux, D., Beijaard, D., & Verloop, N. (2007). The portfolio as a tool for stimulating reflection by student teachers. *Teaching and Teacher Education*, 23, 47–62.
- Mayisela T. (2013). The potential use of mobile technology: enhancing accessibility and communication in a blended learning course. *South African Journal of Education*, 33(1)
- Merier C. (2007). Enhancing intellectual understanding using e-learning strategies. *South African Journal of Education*, 27, 655–671
- Mestry, R., Hendricks, I., & Bisschoff, T. (2009). Perceptions of teachers on the benefits of teacher development programmes in one province of South Africa. *South African Journal of Education*, 29, 475–490.
- Mills, G. E. (2003). *Action research: A guide for the teacher researcher*. Upper Saddle River, NJ: Pearson Education.
- Montgomery, L. A. (2003). Digital portfolios in teacher education: Blending professional standards, assessment, technology, and reflective practice. *Computers in the Schools*, 20, 171–186. <http://doi.org/fm3n6x>
- Schoeman, S., & Mabunda, P. L. (2012). Teaching practice and the personal and socio-professional development of prospective teachers. *South African Journal of Education*, 32, 240–254.
- Seferoglu, S. S. (2007a). Professional teaching standards: The case of Turkish teacher candidates. *World Applied Sciences Journal*, 2(4), s. 412–419. [Available on at: http://yunus.hacettepe.edu.tr/~sadi/yayin/Seferoglu_WASJ-2007_Prof-Teaching-Standards.pdf], Retrieved on 13.08.2014.
- Seferoglu, S. S. (2007b). Information technologies in teacher education: Teacher candidates' perceived computer self-efficacy. *Proceedings of the 6th WSEAS International Conference on e-Activities*, pp. 376–380. Puerto De La

- Cruz, Tenerife, Spain. [Available on at: http://yunus.hacettepe.edu.tr/~sadi/yayin/Seferoglu_e-Activities-2007_IT-Comp-Self-Efficacy.pdf], Retrieved on 13.08.2014.
- Siemens, G. (2005). Connectivism: A learning theory for the digital age. *International Journal of Instructional Technology and Distance Learning*, 2, 3–10.
- Smith, K., & Tillema, H. (2007). Use of criteria in assessing teaching portfolios: Judgemental practices in summative evaluation. *Scandinavian Journal of Educational Research*, 51, 103-117. <http://doi.org/b8v96j>
- Starkey, L. (2010). Teachers' pedagogical reasoning and action in the digital age. *Teachers and Teaching: Theory and Practice*, 16, 233-244. <http://doi.org/b59hf9>
- Türel, V. (2013). The use of educational technology at tertiary level. *Hacettepe Üniversitesi Eğitim Fakültesi Dergisi [Hacettepe University Journal of Education]*, 28(2), 482-496. [Available on at: <http://www.efdergi.hacettepe.edu.tr/201328-2VEHBI%20TÜREL.pdf>], Retrieved on 13.08.2014.
- Van Der Westhuizen, G. J., & Smith, K. (2000). Teachers' portfolio reflections: A comparative analysis. *Teacher Development: An International Journal of Teachers' Professional Development*, 4, 339-352. <http://doi.org/c3nr47>
- Verkler, K. W. (2000). Let's reflect: The professional portfolio as a prerequisite for internship. *Action in Teacher Education*, 22, 116-121. <http://doi.org/fzddtr>
- Yenilmez, Y., & Seferoglu, S. S. (2013). An overview of teachers' awareness on cyberbullying [in Turkish]. *Eğitim ve Bilim [Education and Science]*, 38(169), 420-432. [Available online at: <http://egitimvebilim.ted.org.tr/index.php/EB/article/view/2513/523>], Retrieved on 13.08.2014.
- Yıldız, H., Sartepeci, M., & Seferoglu, S. S. (2013). A study on the contributions of the in-service training activities within the scope of FATİH project to teachers' professional growth in reference to ISTE teachers' standards [in Turkish]. *Hacettepe Üniversitesi Eğitim Fakültesi Dergisi [Hacettepe University Journal of Education], Special Issue(1)*, 375-392. [Available online at: <http://www.efdergi.hacettepe.edu.tr/2013OZELSAYIHATICE%20YILDIZ.pdf>], Retrieved on 13.08.2014.

Uzun Özet

21. yüzyılda teknolojinin ekonomik, eğitim ve kültürel yönden gelişmesi sonucunda bilgi toplumu oluşmuştur. Dijital toplum olma yolunda, bilgi; yeni bağlantılar, tecrübeler ve yorumlar aracılığıyla sürekli gelişim odaklı olmuştur. Bu araştırmada, öğretmen adaylarının yansıtıcı ürün dosyası hazırlamalarında öz denetim ve bilgi yönetiminin etkisi araştırılmış, bilginin oluşturulmasında öğretmen adaylarının öz denetim ve bilgi yönetimi becerisinin katkısı vurgulanmaya çalışılmıştır.

Dijital olarak gelişmiş bir toplumda öğrenme süreci, yeni bağlantılarla yeni bilgiyi oluşturmayı hedeflemekte ve yeni anlamlandırmalar içermektedir. 21. yüzyılda küreselleşen dünyada, dijital teknolojiler bilginin yeniden yaratılmasında önemli bir faktör haline gelmiş, öğrenme sürecinde ise öğrenen aktif bir rol almıştır. Aynı zamanda, öğrenme sürecinde bireylerin anlamlandırabilmek ve bağlantılar kurabilmek için öğrenme sürecine aktif olarak katılmaları çok önemlidir. Böylelikle, bilginin yeniden oluşturulmasında, öğrencilerin aktif katılımı, öğrenmelerini kontrol edebilmeleri, öz denetim, bilgi yönetimi gibi durumlar, öğrenme sürecini etkileyen faktörler olarak karşımıza çıkmaktadır. Öğrencilerin aktif katılımını yansıtan en belirgin örneklerden biri ürün dosyası hazırlama sürecidir. Ürün dosyası, öğretmenlik mesleğine adım atarken öğretmen adaylarının hem mesleki hem de kişisel gelişimlerini ve becerilerini desteklemek için önemli bir öğrenme faaliyetidir. Bu faaliyet yolu ile yansıtıcı düşünce, bağlantı kurma ve bilgi yönetimi hem kişisel hem de mesleki gelişim açısından desteklenmelidir. Bu araştırmada, ürün dosyası hazırlama süreci ile bilgi teknolojilerinin öğretmenlik mesleğindeki yerini, önemini ve ilişkisini ortaya çıkarmak amaçlanmıştır. Bu duruma ek olarak, öğrenenin sahip olması gereken öz denetim ve bilgi yönetimi becerisinin de yaşam boyu öğrenme sürecine katkısı vurgulanmış, ayrıca sözü edilen bu becerilerin mesleğe ve hayata geçiş için kaçınılmaz olduğunun önemine dikkat çekilmiştir. Öğretmenlik mesleği birçok farklı bilgi alanının biraraya getirildiği ve farklı becerileri gerektiren kapsamlı bir meslektir. Bu yüzden öğretmenlik mesleğinin eğitimi sırasında ürün dosyası hazırlama süreci belirli becerilere sahip olmayı gerektirdiği gibi (öz denetim, bilgi yönetimi) yetkin becerilerin de gelişmesinde büyük rol oynamaktadır. Ürün dosyası, öğretmen adaylarının becerilerini geliştirmeye katkı koymak adına bir araç olarak da kabul edilebilir. Yansıtıcı ürün dosyası, öğretmen adaylarının gözlemleri ve uyguladıkları faaliyetlerin yansıtıcı raporlarının tümünü içermektedir. Yansıtıcı ürün dosyası, mesleki gelişimi desteklerken bilgi yönetimi ve yansıtıcı düşünme becerisine de katkı koymaktadır. Ürün dosyası, hem öğrenme hem de öğretme becerilerini geliştirmek için önemli bir araç olarak da görülmektedir.

Araştırma, bağlantı teorisine temellendirilmiştir. Deneyim ve görüşler ışığında bilgi edinmeyi temel alan nitel araştırma deseni, bu araştırmanın desenini oluşturmaktadır. Nitel araştırma çerçevesinde,

öğrenenlerin ürün dosyası hazırlama sürecinde görüş, tecrübe ve yansıtıcı fikirleri dikkate alınmıştır. Bu bağlamda, yarı yapılandırılmış mülakat ve yansıtıcı raporlar araştırma sürecinde veri toplama teknikleri olarak kullanılmıştır. Araştırma verileri ışığında elde edilen bulgular, öğretmen adaylarının öz denetim ve bilgi yönetimi becerilerinin ürün dosyası hazırlamada etkili olduğunu ortaya koymuştur. Öz denetim ve öğrenenler arasındaki diyalog (münazara), bilginin yapılandırılmasında önemli rol oynamaktadır. Yarı yapılandırılmış mülakatlar ve yansıtıcı raporlar, öğretim süreci içerisinde ürün dosyasının etkili olduğunu ortaya çıkarmıştır; ayrıca ürün dosyasının öz denetim, bilgi yönetimi, yansıtıcı öğretimi uygulama ve mesleki gelişimi kolaylaştırma gibi amaçları gerçekleştirilmede kullanılabilir bir araç olarak değerlendirilmiştir.

Yarı yapılandırılmış görüşmeler ve yansıtıcı raporlardan elde edilen nitel veriler, öğretmen adaylarının ürün dosyası geliştirirken gerekli becerilere sahip olmalarının önemli olduğunu ortaya çıkarmıştır. Nitel veriler, öz denetim ve bilgi yönetimi becerilerinin ürün dosyası geliştirmekte etkili olduğu gibi bu becerileri de süreç içerisinde desteklediğini işaret etmiştir. Öz denetim, kendi kendini kontrol etme yeteneğini ve etkin çözümler üretmeyi esas alır. Bu bağlamda, öğretmenlik mesleği, bilginin yaratılmasında eleştirel analizi gerektirir. Öğretmen eğitiminde uygulamalı faaliyetler ve yansıtıcı ürün dosyası hazırlama, kişisel ve mesleki gelişimi teşvik eder. Araştırma bulguları da, yeni yorumların ve anlayışların bağlantılarının kurulmasında yansıtıcı ürün dosyasının kişisel ve mesleki gelişimini artırmak için bir araç olduğunu göstermektedir. Öğretmen yetiştirme programları üzerinde yapılan çalışmalar, yansıtıcı ürün dosyası, öz denetim ve bilgi yönetiminin meslek gelişimine etkisi olduğunu olumlu sonuçlarla göstermektedir ve bağlantı teorisini temel alan bu çalışmada da alanyazını destekleyen sonuçlara ulaşılmıştır.

Bilginin doğası ve bilginin kaynakları sürekli değişmekte ve gelişmektedir. Karmaşık bilgi yapısında, yeni yorumlarla ve anlayışlarla bağlantıların kurulması bilginin sürekli gelişmesine dayanır. Bu bilgiye dayanarak, kendini kontrol etme ve bilgi yönetimi, nitelikli bir ürün dosyası oluşturmada önkoşul olarak kabul edilir. Uygulamaya yönelik faaliyetler ve yansıtıcı ürün dosyası ile öğrenme, öğretmen eğitimindeki kişisel ve mesleki gelişimi teşvik etmektedir. Bu nedenle, yansıtıcı ürün dosyası, öğretmen adayının kişisel ve mesleki gelişimini güçlendirmek için iyi bir araç olduğu araştırmanın bulguları ile desteklenmiştir. Sonuç olarak; bulgular aracılığıyla ürün dosyası hazırlama aşamasında öz denetim ve bilgi yönetiminin süreci zenginleştirdiği ve aynı zamanda bağlantı teorisi temeline dayalı derslerde bilginin yeniden yapılandırıldığı, kişinin öğrenme sorumluluğu aldığı ortaya çıkmıştır.

Araştırma sonuçları, bilginin yaratılmasında öz denetim, bilgi yönetimi, yansıtıcı düşünme becerisinin gerekli olduğunu, ürün dosyasının bilginin yeniden oluşturulmasında büyük önem taşıdığını göstermektedir. Bu araştırma sonucunda, ürün dosyası hazırlama sürecinde öz denetimin, öğrenenin sorumluluğunu geliştirdiği ve bilgi yönetimi sürecini kolaylaştırdığı ortaya çıkmıştır.

Citation Information

Gazi, Z. A., Aksal, F. A., Öznacar, B., & Dağlı, G. (2015). Impact of prospective teachers' self control and knowledge management in compiling a reflective portfolio. *Hacettepe University Journal of Education [Hacettepe Üniversitesi Eğitim Fakültesi Dergisi]*, 30(3), 60-72.